WASTE PAPER COLLECTION SYSTEMS IN SCOTLAND

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RECYCLING MARKET DEVELOPMENT SCOTLAND

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A synopsis on behalf of The REMADE Programme

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Glasgow Caledonian University

Introduction

Pulp and paper are internationally traded commodities and are thus subject to the vagaries of world market conditions. Both pulp and paper have experienced high price volatility historically, with this trend likely to continue for the foreseeable future. American and Asian economic activity heavily influences market prices in the paper industry, with increasing production in Asia leading to overcapacity, as global paper consumption cannot keep pace (Financial Times, 2000).

This situation of fluctuating prices brings uncertainty to the Scottish paper industry, impacting on collectors, reprocessors, and producers. Collectors have difficulty finding long-term markets for wastepaper due to the unwillingness of merchants and mills to enter into long-term contracts, and are thus vulnerable to price volatility. Consequently, wastepaper collection varies between profitability when prices are high and loss-making when prices fall. This uncertainty is a major factor inhibiting the development of wastepaper collection systems in Scotland.

Recovered paper prices rose in Scotland in the 1980s, encouraging many local authorities to establish wastepaper collection systems. This led to a glut of paper on the market, which in combination with other factors, contributed to a dramatic price collapse in the mid 1990s. Many local authorities were forced to discontinue collection systems for financial reasons following this price drop, while others had to subsidise costs to the extent of thousands of pounds per year (City of Glasgow, 1992). This experience has deterred many councils from recycling, with for example Fife council unwilling to restart collections despite Smith Anderson actively seeking contracts with them.

Wastepaper merchants in Scotland source paper from both commercial and local authority collections, with market outlets predominantly consisting of paper mills. Merchants are either mill-tied or independent, with independent merchants selling paper to the highest bidder. This leads to a situation where merchants may export to Europe and Asia when prices are high, leaving domestic shortages.

Paper producers suffer from this variability and unreliability in the availability of wastepaper stocks, which in certain circumstances can result in mill downtime when stocks are low. In general, Scottish paper mills face an uncertain future with product price fluctuations, increased competition from low-cost producers in Asia and South America, and difficulties caused by the unfavourable exchange rate, leading to a number of paper mills closing in the UK, with others reducing capacity, suffering job losses, and being forced to restructure (Paper Federation, 1999).

This study examines the current systems of wastepaper collection, recovery and utilisation in Scotland, gaining insights into the performance of existing systems. The aim is to identify opportunities to expand and improve current systems, in addition to examining ways of stimulating market demand for recycled fibre in both traditional and alternative end-use sectors. The potential to increase levels (volumes, quality, and reliability) of wastepaper collection and the barriers to the increased use of recycled fibres are examined, along with possible methods for overcoming these barriers.

Efficient collection and sorting systems are essential to ensure that reliable supplies of quality paper are available to end-users such as paper mills. The 32 local authorities under Best Value contracts undertake collection of household waste, with varying levels of separate collections of recyclables included in their waste management systems. Paper contained in commercial waste is predominantly collected via waste paper merchants and reprocessors, although some local authorities carry out commercial cardboard collections.

1 Local Authority Collections

1.1 Background

Local authorities responsible for waste collection have a statutory requirement to produce a recycling plan under section 49 of the 1990 Environmental Protection Act. These plans, which must be approved by the Scottish Executive, are designed to implement strategies to work towards achieving the target of a 25% recycling rate for household waste by 2000 set out in the Governments White Paper "This Common Inheritance" in 1990 (DETR, 1999a). The government has recently proposed a new target of 33% household waste recycling by 2015 for councils in England and Wales (Papermartuk, 2000).

Recycling levels achieved by Scottish councils are well below either target, with the 1999 average being a low 5.7%. In fact only 4 councils achieved in excess of 10%, with 13 below 4%, and the maximum being Argyll and Butes 16.8% (Accounts Commission, 2000). As the targets are non-statutory and limited finance has been made available to achieve them, they are perhaps unlikely to be met unless circumstances change. Local authorities themselves attribute low recycling rates to price fluctuations in the market for recycled materials, lack of council funding, and a lack of public awareness of recycling. Several local authorities have discontinued collections following price collapses (e.g. South Lanarkshire, Midlothian), with a Friends of the Earth survey of 219 councils in the UK revealing that 10% had ceased kerbside collections, 10% had closed paper banks and 33% had abandoned plans to expand paper collections, principally due to low and unpredictable prices (Friends of the Earth, 1998).

The highest household waste recycling rates tend to have been achieved by councils who have worked in partnership with private and community-based organisations. For example, Argyll and Bute council, who may be expected to have a relatively low recycling rate due to its Highlands and Islands location, instead boasts the highest recycling rate of all Scottish councils.

The most significant factor in their success appears to have been the establishment of a comprehensive network of recycling facilities, achieved through the development of working partnerships with community-based organisations such as the Group for Recycling in Argyll and Bute (GRAB) and Campbeltown Wastewatchers (CWW), who combine local recycling projects with community environmental education, raising the profile of recycling in the area. Public participation in recycling is high, particularly encouraged by the development of sustainable, local markets for the wastepaper collected, such as animal bedding for use by the local farming community.

The availability of external funding is another significant factor in the success of recycling projects, with Campbeltown Wastewatchers attracting funding from landfill tax credits, the National Lottery and the European Regional Development Fund. This type of funding is particularly useful in the initial development phase of collection schemes, which is likely to require capital investment for the purchase of equipment such as paper banks, balers or shredders.

1.2 Paper Collection

Paper and board are collected through household kerbside collections, commercial cardboard collections and paper/board bring sites, with Scottish councils collecting approximately 2.3 million tonnes of household waste per annum, a figure that is annually increasing by 2% (SEPA, 1999). Assuming the average contents of paper and board, within the waste stream, to be 32% (AEA Technology, 1999) an estimated 736,000 tonnes of paper / board per annum is potentially available for recycling. Yet data from local authorities themselves suggest that only 43,931 tonnes are collected annually (5.97%), leaving 692,069 tonnes to be disposed of by other means. The favoured disposal route is landfill in most cases, although a number of Scottish councils have built energy-from-waste (EFW) plants, and incinerate a proportion of household waste. The figure of 5.97% is likely to be an underestimate, as it doesn't include paper recycled by charities or other organisations collecting paper for uses such as animal bedding. The Scottish Office Environmental Statistics (Government Statistical Service, 1998) estimated public sector paper and board collection to total 48,970 tonnes, a similar figure to the one calculated above from local authority data.

A questionnaire was sent out to the 32 Scottish local authorities (see Appendix 1) to determine the current situation regarding collection of wastepaper. 27 out of 32 replied, giving a response rate of 84 %. The information gathered from the questionnaires is discussed below, with data referring to 1999/2000 values. It is important to treat the figures provided by the local authorities with a degree of caution, with official figures on recycling rates, for example, not yet available for the year in question for comparison.

Four Scottish Councils have no wastepaper collection system in place, three of which are in the Highlands and Islands, where low population densities and high transport costs make collection difficult, while the fourth, Fife council previously collected paper until price fluctuations forced them to discontinue the service.

The remaining 28 councils collect wastepaper by two main methods, kerbside collection schemes and bring sites, with the majority of councils using a combination of these methods.

1.3 Kerbside Collections

?? 62.5% of councils operate a kerbside collection scheme for paper, covering 38.2% of Scottish households

?? Kerbside collections are responsible for 23,589 tonnes of paper per annum, contributing 53.7% of the total paper collected by councils

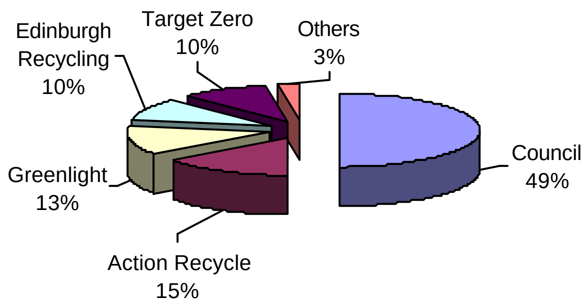
?? A majority of 55% are council-operated, with a further 35% of schemes run by LEEP, Action Recycle or Greenlight Environmental (see figure 1.1)

?? Average participation rates are estimated to be 56%

?? 61% operate on a fortnightly frequency, 39% on a weekly basis

?? Over 60% using the blue bag method of collection, with others using wheeled bins, boxes or bundles.

Figure 1.1: Operators of Kerbside Collections



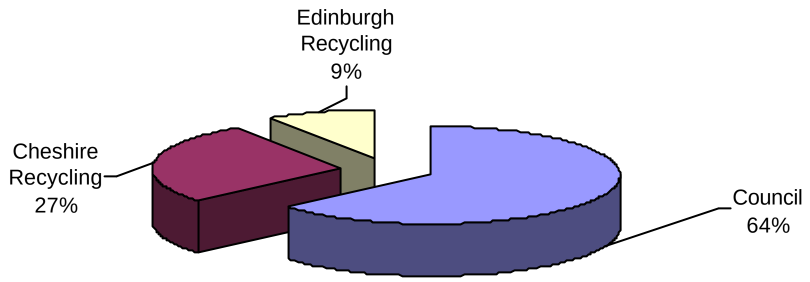
From the statistics above it can be seen that there is potential to increase the number of households covered by kerbside schemes. Various councils in densely populated areas have no kerbside schemes or only limited coverage. This is particularly the case in the Glasgow area, e.g. North Lanarkshire. Kerbside schemes have been shown to be the most effective method of collecting paper in urban areas, having a significant positive effect on public participation in recycling (Ecotech, 1999), with doorstep collection involving minimal effort for householders compared to other forms of collection.

1.4 Bring Sites

Bring sites are a popular method of paper collection, and primarily involve the use of paper banks located at convenient and frequently visited public sites such as supermarkets. Most councils also have a small number of civic amenity sites where paper can be recycled. The average number of bring sites per council area is 18. A high 78.1% of councils operate bring sites, with only 7 councils not utilising this form of collection, and again the majority are council owned and operated (63.6%). Of the remainder, Cheshire Recycling and LEEP operate the highest number (see figure 1.2). 20,342 tonnes of paper were collected from bring sites in Scotland in 1999/2000, that is, 46.3% of the total paper collected by councils.

Bring sites are likely to be less successful in achieving high participation levels than kerbside schemes, principally because they discriminate against non-car owners who may otherwise participate. Critical factors in the success of bring schemes are density and siting. High concentrations of banks are most effective in encouraging the public to recycle, helping minimise distance travelled, whilst location is very significant, with paper banks most successful when placed in convenient and accessible locations (Glasgow City Council, 1992). The amount of paper people recycle is directly related to the availability of local facilities, with recycling rates up to 100% greater in areas with recycling facilities within a 2 mile radius (Aylesford Newsprint, 1998).

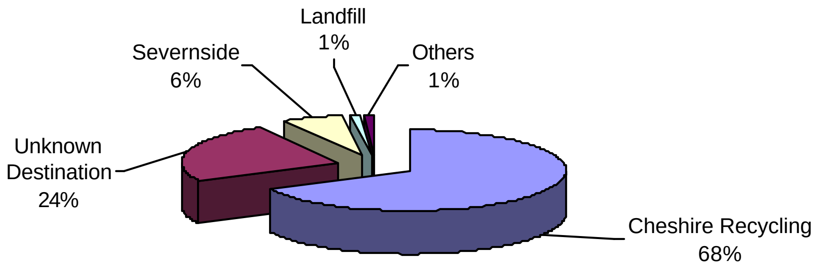
Figure 1.2: Bring Site Operator



1.5 Markets

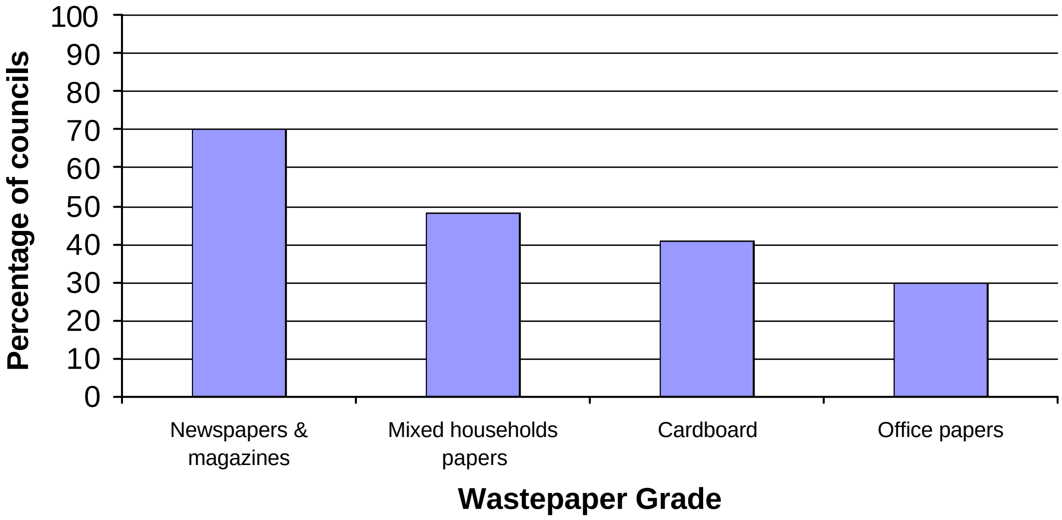
Cheshire Recycling, who sell newspapers and magazines to Bridgewater Newsprint Mill, dominate the local authority market (see figure 1.3), acquiring 67.4% of wastepaper (by tonnage) collected by councils. Only 43% of councils have contracts with mills or wastepaper merchants, with Cheshire Recycling, Smith Anderson and BPB dominating contracts issued. An increasing number of councils are signing contracts with Cheshire Recycling, who have recently introduced fixed price contracts; a measure which should greatly contribute to stability of paper collections. In addition, the company are discussing the possibility of taking over the operation of kerbside collections on a contractual basis. (Wastewatch, 2000b).

Figure 1.3: Market Destination for Wastepaper



Wastepaper grades most frequently collected by local authorities are newspapers and magazines, mixed household papers, cardboard and mixed/sorted office papers (see figure 1.5). In terms of quality and sorting, 56% of councils who responded were obliged to fulfil quality standards set by mills or merchants, with Yellow Pages and plastics being the most common contaminants specified as unacceptable. Only 32% of councils undertake sorting themselves, with the remainder carried out by intermediaries such as wastepaper merchants.

Figure 1.4: Wastepaper Grades Collected



1.6 Prices

The majority of councils (68%) were able to negotiate a price for wastepaper, although 20% received no price, and 12% had to pay for uplift. Prices received for wastepaper grades were similar for councils throughout Scotland, with news and pams receiving £6-15/tonne, cardboard £15-40/tonne, and KLS (recycled cardboard) £55/tonne. This lack of variation is explained by the fact that the majority of councils have contracts with the same company, Cheshire Recycling. Several councils in the north of Scotland, particularly Moray and Aberdeenshire, were unable to sell wastepaper collected after BPB Paperboard stopped buying mixed grades, and were left with the option of discontinuing collections or sending the paper to landfill. Moray council's recycling rate fell by 3.5% as a result of this, and the paper collected is currently sent to landfill. Cheshire Recycling will only cover councils as far north as Fife due to prohibitive transport costs, with the paper having to be transported down to Bridgewater.

Prices received by councils generally fluctuate with market conditions (58% of councils), with only 21% of councils receiving a fixed price, while a further 21% have contracts where prices vary but a minimum price of e.g. £10/tonne is guaranteed. West Lothian and East Renfrewshire were the only councils who reported using recycling credits to help subsidise paper collection, with the former paying credits to Action Recycle, along with a per house s ubsidy for any shortfall between sales income and collection costs.

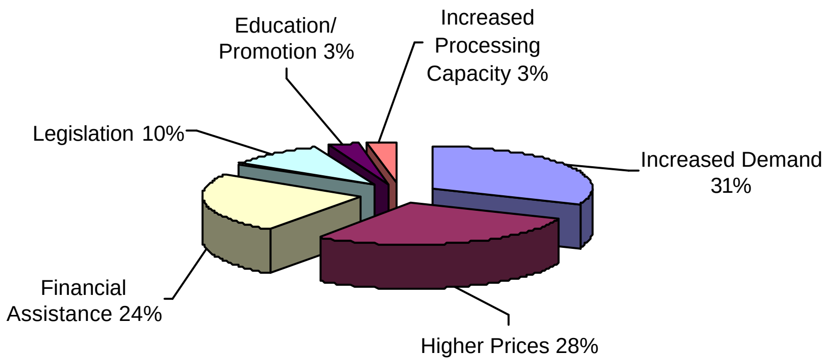
1.7 Collection Costs

Few councils were willing or able to release data on collections costs, although Dumfries and Galloway estimated kerbside collection costs to be in the region of £40-50 per tonne, while Stirling gave a figure of £55/tonne and Scottish Borders estimated £72/tonne, with both of the latter including kerbside and bring schemes. These costs are obviously in excess of the price paid for the most common grades of paper collected, and if they are indicative of the general situation, the majority of council collection systems must be operating at a loss.

1.8 Measures To Increase Recycling

The councils were requested to identify the measures they thought would be instrumental in achieving an increase in the rate of household waste recycling. An overwhelming 59% named higher, more stable prices and increased market demand, while 24% felt the need for increased financial assistance to fund collection programmes, and 10% viewed Government legislation as the way forward (see figure 1.5). A combination of these measures is thought to be necessary to enable local authorities to meet even the 25% recycling target.

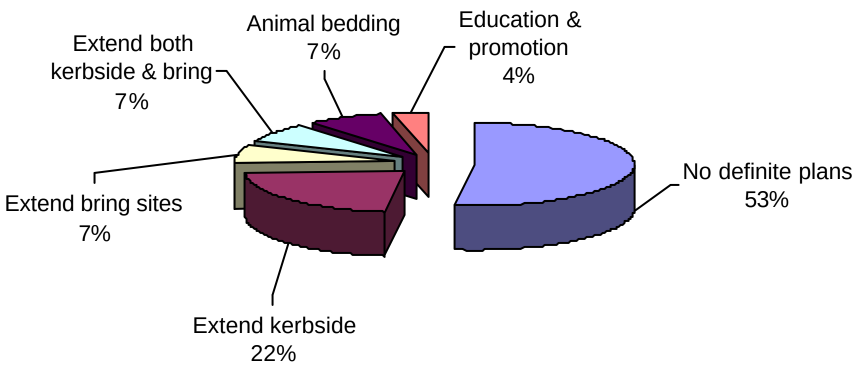
Figure 1.5: Measures to Increase Recycling



1.9 Future Plans

36% of councils had plans to expand the coverage of kerbside collections and/or bring sites (see figure 1.6), with, for example, East Ayrshire's collection programme expanding to encompass a further 5,000 households in autumn 2000, and Glasgow's kerbside development programme increasing annually and including new housing types such as tenements which have been traditionally neglected in kerbside programmes. Two councils, Shetland and the Western Isles, are in the process of establishing shredding plants to manufacture animal bedding for sale to local farmers, while one council, Falkirk, plans to develop an education programme to increase public awareness of recycling. The remainder of councils, that is 52%, had no definite plans.

Figure 1.6: Future Recycling Plans



2 Third-Party Organisations

As seen in the preceding section, a number of local authorities have contracts with 3rd party organisations for wastepaper collection. These range from large commercial organisations such as Cheshire Recycling through to local charitable organisations. The dominant organisations in this category are Action Recycle, Lothian and Edinburgh Environmental Partnership (LEEP), and Greenlight Environmental. Cheshire Recycling is discussed in section 3.

Action Recycle, a subsidiary of the Scottish Conservation Projects charity, organise kerbside paper collections for 170,000 households in the Falkirk, Stirling, Clackmannanshire and West Lothian council areas. An annual tonnage of 5,500 of grade 5 (news and pams) is collected and baled, being sold to Cheshire Recycling. Minimal sorting is required, with householders relied upon to follow guidelines and only put in newspapers and magazines. Wastepaper is collected and transported to a transfer station where only a cursory examination is needed to ensure no undesirables such as Yellow Pages are found. Public participation rates vary seasonally and with locality, from a low of 15% to a max of 43%.

LEEP organises recycling initiatives in Edinburgh and the Lothians through its Edinburgh Recycling subsidiary, being funded by landfill tax credits through Haul Waste. A 6-month pilot kerbside paper collection covering 1,500 households in Edinburgh and the Lothians was carried out; with a 65% participation rate in Edinburgh indicating the public's willingness to recycle if convenient collection systems are in place (Materials Recycling Weekly, 1999). An education programme to increase consumer awareness of recycling is being held in conjunction with the project. A further study is investigating the possibility of a dual-purpose collection vehicle that can collect general municipal waste and separated wastepaper in the one vehicle. This would greatly reduce the cost of wastepaper collection, and produce less environmental pollution than two separate collections.

Greenlight Environmental, based in Alexandria, organise a fortnightly kerbside collection of paper and cardboard in Argyll and Bute, West Dunbartonshire and Inverclyde covering 120,000 households with a 27-28% participation rate. Sorting is sometimes required to remove undesirables such as plastics and cellophane wrapping. All paper is currently sold to Cheshire Recycling. Greenlight have recently submitted a proposal for a total recycling centre (100% funding being sought) to sort and recycle waste in order to fulfil targets in the national waste strategy.

An example of a small community-based recycling organisation is Campbeltwon Waste Watchers, which is funded through landfill tax credits, the National Lottery and the European Regional Development Fund. Used newspapers are collected through paper banks in remote areas, a kerbside collection serving 900 homes in Campbeltown, unsold newspapers from island newsagents, and a partnership agreement to receive newspapers from Argyll and Bute council's bring sites. 150 tonnes of newspapers were collected in 1999, with a projected increase to 200 tonnes in 2000. The newspaper is shredded and sold as animal bedding to local farmers.

Several local charities collect paper on a small-scale basis as part of their fund-raising activities. This form of collection is most prevalent in Aberdeenshire and East Ayrshire, with for example 47 charities in Aberdeenshire collecting 1,500 tonnes of paper in 1997 (Paperchain 2000 1997).

3 Commercial Collections

An estimated 425,000 tonnes paper and board (Enviros, 1999) arise from the commercial and industrial waste stream every year, with approximately 56,130 tonnes, or 13%, being recovered for recycling. Private companies operating as wastepaper merchants or general waste disposal agents account for an estimated 81.1% of the paper collected from commercial and industrial sources, with public sector collections, mostly for cardboard, making up the remaining 18.9% (Scottish Environmental Statistics, 1998). The amount of paper and board collected for recycling is likely to substantially increase with the introduction of the Packaging Regulations.

The dominant companies collecting and processing wastepaper are Hannays, Smurfit, UK Waste and Cheshire Recycling (formerly Stirling Fibres), with branches covering the Central Belt and major cities in Scotland (see figure 1.1). Data gathered on each organisation can be found in Appendix 1.

UK Waste and Hannay collect primarily from commercial organisations, and concentrate on collections of cardboard and office waste, while Smurfit collects 70% news and pams and 30% commercial waste. All three organisations sell cardboard to BPB Paperboard in Aberdeen, with office waste tending to be sold on the English market, and news and pams sold to one of the three newsprint mills in England.

Cheshire Recycling concentrates on newspapers and magazines collected via contracts with approximately 30% of councils, mainly those in Central Scotland to minimise transport costs. As there is no newsprint capacity in Scotland, the news and pams collected are sold to Bridgewater Newsprint Mill in England.

Despite concentrating on varying market sectors, all four organisations experience similar problems. Contamination is seen as a major problem, with plastics, polythene and mixed grades having to be separated to meet quality specifications required by customers. This seemed to be a particular problem with office waste and cardboard collected from large commercial organisations, which are often unwilling to separate waste adequately even if quality standards are specified and separate bins/bags are provided. Subsequent sorting at depots can cost up to £40 per tonne, which can result in the whole process becoming uneconomic. Cheshire Recycling overcome this problem by removing paper banks from locations where repeatedly high levels of contamination are found. However, this approach would not be applicable to collections from commercial organisations, who are paying for collections and would be likely to respond by taking their business elsewhere.

Separation at source is the obvious solution, but attitudes of commercial organisations to waste segregation have to be altered through education and awareness campaigns or innovative incentive mechanisms, that make them more aware of the fully cost savings and environmental benefits. The production of clear standards and specifications for each grade will also contribute to greater segregation and quality control of material destined for industrial use.

All four companies have spare capacity and would be willing to take higher volumes of paper if collections increased, with the proviso that quality standards would be met. However, Smurfit commented that market conditions would have to change to make increased collections viable on an economic basis as the most readily accessible paper is already collected, leaving the more heterogeneous and contaminated component which is more expensive to recover and sort.

4 Collection Costs

The combined costs of collection, separation, processing and hauling (to market) can bring into question the cost-effectiveness of paper recycling. Many organisations involved, such as councils, may be subsidising costs to varying extents. In remote areas such as the Highlands and Islands, which tend to be sparsely populated, kerbside collections are unlikely to be economically viable, with small quantities of material having to be transported from relatively few households and over long distances between households. Collections via bring systems are more efficient in such situations, where paper banks can be located at local supermarkets, to which car journeys from households would be made irrespective of the presence of recycling facilities.

The question arises of why wastepaper collection is profitable for wastepaper merchants, a fact confirmed by their very existence, yet is often uneconomical for local authorities. This can be partly explained by the fact that local authorities are often forced to give recycling a low focus, concentrating on higher priority issues such as health and education. Councils generally only have one person concentrating on recycling, whose job will entail looking at the whole range of recyclable materials, and who will have limited funds available. Several councils in Scotland do not even have a dedicated recycling officer.

Compare this to merchants, whose sole focus is on wastepaper and who have the necessary expertise on paper collection and recycling. Furthermore, merchants can achieve economies of scale in paper collection, sorting and processing that local authority piecemeal collection will never achieve in isolation. In addition, merchants have more bargaining power to gain contracts with mills, being in a position to guarantee supplies of significant volumes of wastepaper. In fact, some mills, such as Inveresk, will only deal with merchants, refusing to directly source material from local authorities.

Secondly, the apparent comparative profitability of merchants is somewhat illusory. Wastepaper businesses come and go and only the flexible and successful ones appear on the scene for any length of time. The overall profitability of the industry as determined by factoring in *all* the players, including the bankrupt ones who sustained losses, is quite low

Finally, recycled paper collection is less economical for local authorities than for merchants because the authorities are, by definition, dealing with the more problematic portion of the waste stream. The merchants focus primarily on recovery of commercial paper waste precisely because it is a larger volume stream, is cleaner, more homogeneous, easier to collect and is sufficiently profitable.

Conclusions

Considerable opportunity exists to develop and improve the industry, with the current recycling rate for paper and board a low 6% for household waste and 13% for commercial and industrial waste. There is strong legislative pressure to increase both figures significantly, with targets being set for the recycling of household waste and paper packaging waste.

Wastepaper collection systems in Scotland are fragmented, with a large number of small-scale collectors acting independently. Collectors suffer from a combination of high collection and sorting costs, under-funding and economic uncertainty caused by fluctuating prices and market demand. Higher prices, market stability and increased financial assistance would help overcome these barriers, hopefully stimulating new and improved collection systems.

Scottish paper mills utilize recycled fibre to varying extents, ranging from 0% in mills specializing in carbonless copy paper, to almost 100% in packaging mills. The greatest potential to increase recycled fibre use is in the graphics sector, facilitated by new de-inking technologies. The expansion of these existing markets, along with the development of alternative markets such as animal bedding and moulded pulp is seen as crucial to providing the sustained high demand for recycled paper necessary to stimulate and support collection systems.

The major difficulties faced by mills using recovered paper are that of contamination, reduced quality and strength loss. The development of quality specifications and producer education will help overcome contamination, while new technologies are addressing the strength loss problem. Moreover, mills must have assured supplies of recovered paper at sufficient volumes to make it an important raw material to them. Hence, collectors of recovered paper in Scotland must also commit to increase the volumes and improve the reliability of their recycling schemes, to make this strategic linkage.

The rate of paper recycling in Scotland could be significantly increased if an integrated collection and sorting system producing guaranteed supplies of paper meeting quality specifications could be developed in conjunction with increased market demand from paper mills and alternative users.

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Appendices

Appendix 1: Local Authority Questionnaire & Results

1. What is your current household waste recycling rate?

2. How much wastepaper (tonnes) is collected annually?

3. Which grades are collected? E.g. newspapers/ magazines, mixed household papers

4. Which collection methods are used? Please specify volumes/percentages for each

5. Do you operate a kerbside paper collection? (Please circle) Yes No

If yes, please indicate:

(a) method used

(b) frequency of collection

(c) number or percentage of households covered and estimated participation rates

(d) is the scheme operated in-house or by 3rd party? Please specify 3rd party e.g. Action Recycle

If no, please indicate if kerbside collections have previously been undertaken in the council area and specify details, along with reasons for discontinuing service. E.g. prohibitive collection costs, lack of market for wastepaper

6. How many paper banks / recycling points are provided in your area?

7. Are they operated by the council or a 3rd party? Please specify

8. Which outlets are wastepaper sold to?

	Company Name	Volume (tonnes)	% of total
Paper Mill			
Wastepaper Merchant			
Other			

9. Do you have any contractual arrangements with the above buyers? If yes please specify

10. What, if any, quality standards do buyers specify for paper collected, e.g. no yellow pages?

11. Is any sorting of paper carried out?

12. What price is currently received for wastepaper?

13. Is the price received fixed (as per contract) or does it fluctuate with market variations?

14. Can you provide an estimate of paper collection costs?

15. Do you have any future plans to extend or start paper collections? If yes, please specify

16. What measures do you think would encourage local authorities to increase the amount of wastepaper recycled?

Appendix 2: Local Authority Paper Collections

Local Authority	Household Waste Recycling Rate	Paper Collection (tonnes pa)	Kerbside Scheme	Bring Sites	Market Outlet	Price Received	Future Plans
Aberdeen	5%	5,200	Weekly council collection covering 80% of households (4,680t)	13 council sites (52t)	80% to Cheshire Recycling, 10% to BPB Paperboard, 10% unknown	£10/tonne mixed papers, £30/tonne cardboard	None
Aberdeenshire	5.2%	1,200	None	48 council banks	Wastepaper merchant (unnamed)	Pay for uplift	Increased covera of bring sites
Angus	13.6%	1,210	Fortnightly council collection for 50,000 households, 80% participation	5 council sites, 5 third party sites	Cheshire Recycling (100%)	£15/tonne, with contract stating minimum £10/tonne price	None
Argyll & Bute	16.8%	1,800	Weekly collection by Greenlight and CWW covering 15,000 households	30 banks (22 council, 6 CWW, 2 Cheshire Recycling)	Cheshire Recycling (news & pams) Tracey Timber (cardboard)	£15/tonne news & pams, £30/tonne cardboard	None
Clackmannanshire	4.2%	410	None	9 banks operated by Cheshire Recycling	Cheshire Recycling (100%)	Pay for uplift	None
Dumfries & Galloway	3%	300	Fortnightly council collection in Annandale	7 council paper banks	Armstrongs Waste Management (100%)	£7.50/tonne paper, £12.50/tonne cardboard	None
Dundee	10.5%	2,358	Weekly council collection covering 25,785 households, 100% participation	24 council sites	wastepaper merchants (unnamed)	£20-35 / tonne	Currently extending kerbsi collection
East Ayrshire	3%	500	Weekly council collection, 85% participation	6 council paper banks	70% to merchant, 30% to mill (unnamed)	£25-40 / tonne	New 5,000 household collection, autur 2000
East Dunbartonshire	7%	2,940	Fortnightly collection by Target Zero 43,000 households	10 banks operated by Cheshire Recycling	Cheshire Recycling, Target Zero	Not available	None
East Lothian	4.7%	850	Trial fortnightly collection by LEEP covering 1,000 households, 65% participation	10 council paper banks	79% to LEEP (673 tonnes) 21% undisclosed	£6/tonne	Extension of tria subject to availability of landfill tax credi

Local Authority	Household Waste Recycling Rate	Paper Collection (tonnes pa)	Kerbside Scheme	Bring Sites	Market Outlet	Price Received	Future Plans
East Renfrewshire	7.8%	2,563	Fortnightly collection by Target Zero covering 90% of households, 45% participation	11 Paper banks operated by Cheshire Recycling	Cheshire Recycling, Target Zero	None	Would like to extend collectio to commercial premises, but limited by financ
Edinburgh	4.9%	5,300	Weekly collection by LEEP covering 750 households, 67% participation	60 LEEP paper banks	Cheshire Recycling (100%)	Not available	Potentially increase kerbsid collection & number of bring sites
Falkirk	8%	2,328	Fortnightly collection by Action Recycle covering 99% of households, 30% participation	None	Cheshire Recycling (100%)	Not available	Education & promotion campaign
Fife	1.6%	No paper collected	None	None	N/a	N/a	Paper bring sites joint projects wi private organisations
Glasgow	2.9%	3,064	Weekly council collection covering 30,000 households	41 council paper banks	Cheshire Recycling (100%)	Not available	Extend kerbside collection and bring sites
Inverclyde	3.4%	465	Fortnightly collection by Greenlight covering 10,000 households, 33% participation	16 paper banks operated by Cheshire Recycling	87% (404t) to Cheshire Recycling, 13% (61t) to Greenlight	Pay Cheshire Recycling £10/tonne for uplift, Pay £21.60/tonne recycling credits to Greenlight	Extend kerbside most of area in next year (schem commenced in December 1999)
Midlothian	1.9%	250	None	8 LEEP paper banks	100% to LEEP	Not available	None
Moray	2.7%	500	None	7 council sites	100% landfilled as no market (previously sold to BPB)	Pay landfill tax	None
Perth & Kinross	16%	1,536	Fortnightly council collection covering 35% of households	33 council sites	Cheshire Recycling (100%)	£30/tonne	None
Renfrewshire	3.3%	464	None	9 paper banks operated by Cheshire Recycling	Cheshire Recycling (100%)	None received	Under review

Local Authority	Household Waste Recycling Rate	Paper Collection (tonnes pa)	Kerbside Scheme	Bring Sites	Market Outlet	Price Received	Future Plans
Scottish Borders	12.5	2,481	Weekly council collection covering 60% of households, 50% participation	8 council sites	Severnside (100%)	£25/tonne mixed, £55/tonne KLS	Under review
Shetland Islands	12%	6	None	None	6 tonnes of office paper shredded and sold as animal bedding	£3/bale	Under review
South Ayrshire	5.8%	550 (455t paper, 95t cardboard)	Fortnightly council collection covering 3,000 households, 50% participation	7 council sites	83% (455t) to Cheshire Recycling, 17% (95t cardboard) to Smith Anderson	£15/tonne news & pams, £35-40 / tonne cardboard	Extend kerbside and bring sites
South Lanarkshire	6.8%	828	None	40 paper banks operated by Cheshire Recycling	Cheshire Recycling (100%)	Not available	None
Stirling	7.6%	1,480	Fortnightly collection by Action Recycle covering 24,000 households	None	Cheshire Recycling (98.4%), 1.6% (25t of cardboard) to Smith Anderson	£40/tonne for cardboard	None
Western Isles (Eilan Siar)	0%	No paper collected	None	None	N/a	N/a	Animal bedding project, 208 tonnes/year
West Lothian	3.3%	1,860	Fortnightly collection by Action Recycle covering 99% of households	2 council sites	Cheshire Recycling (100%)	Not available	None

Appendix 3: Wastepaper Merchants

Company	Location	Capacity	Grades Collected	Suppliers	Outlets	Additional Information
BPB Recycling	Aberdeen, Glasgow	Not available	Cardboard, office grades, news & pams	Supermarkets, commercial organisations	BPB Paperboard, Inveresk	
Cheshire Recycling	Gartcosh	48,000 tonnes/year	News & pams, cardboard, office grades, mixed grades	Local authorities, Banks (security shredding), commercial organisations	Bridgewater Newsprint Mill, BPB Paperboard, Universal Packaging	Potential to increase capacity if council collections increase
John W. Hannay	East Kilbride, Aberdeen, Dundee, Edinburgh	Not available	Cardboard, office grades	Supermarkets, commercial organisations	Inveresk, BPB Paperboard	
Smurfit	Glasgow	52,000 tonnes/year	News & pams, sorted & mixed office waste, cardboard	Supermarkets, commercial organisations	Shotton Newsprint Mill, BPB Paperboard, Snodland Mill (Kent)	Contamination problem with plastics in supermarket waste, need for education & specifications
UK Waste	Glasgow, Aberdeen, Dundee, Edinburgh	20,000-30,000 tonnes/year	Cardboard, mixed grades, sorted office grades	Commercial organisations	BPB Paperboard, Office and mixed sold on market	Contamination problems, particularly with plastics. Potential to increase capacity.