

A good practice guide for local authorities

Choosing and improving your glass collection service



WRAP helps individuals, businesses and local authorities to reduce waste and recycle more, making better use of resources and helping to tackle climate change.

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This Good Practice Guide provides essential information to local authority waste managers on the collection and recycling of glass. Whether planning new glass collections, or making alterations to existing schemes, it can help you introduce the most sustainable service.

- Collecting glass colour separated will deliver the quality of glass required by the remelt industry.
- If your authority is already colour-sorting – don't change your collection service.
- If you're unable to collect glass completely colour separated, keep clear glass separate from other streams.
- Glass reprocessors will pay more for colour separated glass.
- Recycling glass into closed loop applications generates significant environmental benefits.

Did you know?

2.7m

The UK produces around 2.7 million tonnes of container glass waste per year.



Good practice glass collection – at a glance

The need for change

Of the 2.7 million tonnes of waste container glass (cullet) collected in the UK each year, an increasing proportion is collected as mixed-colour. In addition there is an observed trend for higher levels of contaminants in the loads received by glass reprocessors. Both of these factors ultimately impact on the price local authorities receive for each collection.

What do we mean by good practice?

Good practice means providing a service that collects glass of the best possible quality for end markets. This will realise the best value for the cullet you collect and provide the greatest environmental benefits.

Therefore, the preference is to collect materials as shown in figure 1.

Clearly for each local authority, the choice of which collection procedure to implement will involve properly investigating and balancing a number of factors, including financial benefits, ease of collection, environmental and reputational benefits. Each of the collection routes can also be effectively supported with bring sites. More details on each of these options can be found later in this guide.

The benefits

Good practice glass collection has a number of potential benefits for your local authority:

Financial factors

While there is an associated cost with colour separation, this is partly offset by the increased price paid by glass reprocessors – up to twice the value per tonne compared with mixed glass.


Reputational enhancement

As residents increasingly expect more of their household materials to be recycled for environmental benefit, there is growing pressure on local authorities to offer improved collection services. Being seen to carry out good practice glass collection can be beneficial to the environmental reputation of the local authority.

Saving energy

Using recycled container glass to make new containers (closed loop) generates significant energy savings, with every tonne delivering an energy saving of 25% when compared with manufacture using raw materials.¹ However, using cullet for non-container glass (open loop) applications often does not have as significant a benefit.

Figure 1: Material collection preference

			
<p>Co-mingled with other materials Should no other route be available, ensuring glass is captured from waste stream</p>	<p>Mixed colour cullet Ensuring that material is sent to a reprocessor with colour-sorting technology</p>	<p>In two streams at point of collection – clear and coloured Preserves the valuable and short in supply clear cullet</p>	<p>Colour separated at point of collection Most likely to deliver the quality of cullet required by the glass remelt industry</p>

Colour separation at kerbside delivers the best quality cullet.



Reduction in emissions

Closed loop recycling saves 315kg of CO₂ per tonne of glass used, and also reduces emissions of nitrogen oxides and particulates.

Preserving resources

Extracting raw materials for the manufacture of glass requires 1.2 tonnes (at the factory gate) for every tonne of glass produced, whereas cullet requires only 1 tonne. This avoids the need for excess raw materials to be extracted and transported, reducing the environmental impact.

The rest of this guide provides an overview of the UK recycled glass industry, takes you through the various collection options open to you, as well as offering specific advice on good practice communications to support your glass collection services.

“Recycling of glass can yield significant greenhouse gas benefits dependent on the processing route, with closed loop recycling offering significantly greater benefits than lower grade uses, which may yield only marginal benefits.”

‘Waste Strategy for England 2007’²
published by Defra in May 2007

Packaging recovery targets

Defra has set new overall packaging waste recovery and recycling targets of:

- 72% in 2008
- 73% in 2009
- 74% in 2010

www.defra.gov.uk/environment/waste/topics/packaging/index.htm

¹“Glass Recycling - Life Cycle Carbon Dioxide Emissions. A Life Cycle Analysis Report” prepared for British Glass by Enviros Consulting Ltd November 2003.

²www.defra.gov.uk/environment/waste/strategy/strategy07/pdf/waste07-strategy.pdf

Overview of glass collection in the UK

Sustainable glass collection and recycling in the UK requires a close partnership between local authorities and the glass industry. This section details some of the background to the UK glass market, while an in-depth market situation report is available at www.wrap.org.uk/businesses/market_knowledge/market_1.html

In addition, up-to-date price information can be accessed at www.wrap.org.uk/businesses/market_knowledge/materials_pricing_reports/index.html

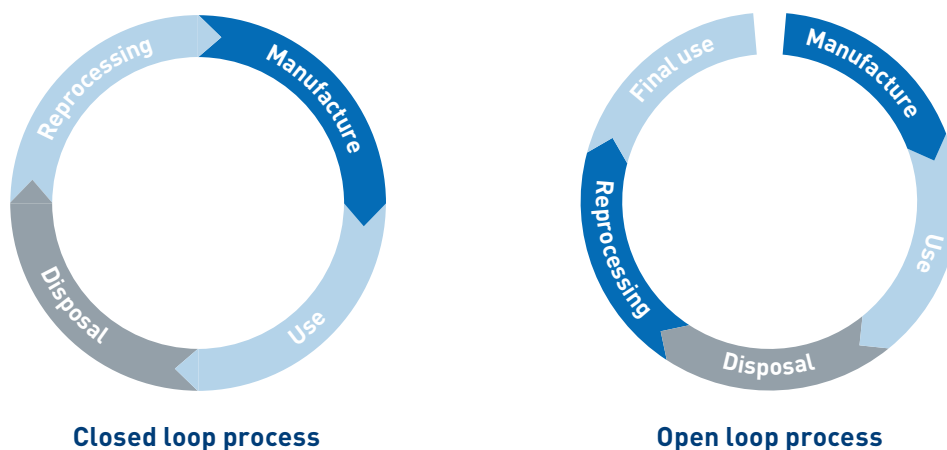
Closed and open loop recycling

Glass recycling processes are broadly split into two categories – closed loop and open loop (figure 2).

Closed loop recycling means the glass is recycled back into the same product type. Closed loop processes offer the highest financial and environmental returns, and in the UK the market has surplus capacity. However, it requires glass with low levels of contamination and in a state suitable for colour-separation, which has implications for the method of collection.

An open loop process is one in which the glass is recycled into a different product, which usually has limited opportunity for further recycling. For example, using mixed cullet as an aggregate in road construction.

Figure 2: Closed and open loop recycling



The British Standards Institute in conjunction with WRAP produced a Publicly Available Specification Standard for glass, (PAS 101), which defines four standards of quality for cullet. To learn more download the PAS 101 summary document from www.wrap.org.uk/document.rm?id=313

Collecting cullet

Cullet can be collected in a number of ways, giving local authorities a variety of methods to consider when planning their collection system.

Which system you select will depend on your individual criteria, such as the services you already have in place and the location of relevant end markets.

Separately collected glass is typically taken first to a glass processor, who will sort the material and prepare it for use in the manufacturing industry. This process typically involves colour sorting and grading of materials to create suitable streams for different market applications. However, certain processes have to be in place to ensure that the quality of the cullet is of a sufficient standard for use in new products.

Quality control

Reprocessors set limits on the level of acceptable contamination in glass cullet. As well as non-glass materials, like paper and plastics, other contaminants to avoid include Pyrex, light bulbs or drinking glasses. These materials have a different chemical composition to container glass and can cause problems in the manufacturing process.

You should work with your reproprocessors to set acceptable levels of contamination, which generally involves setting weight limits of allowed contaminants per tonne of glass received.



Closed loop recycling processes offer the highest financial and environmental returns.

Good practice glass collection

Good practice glass collection requires an understanding of the various collection options and their associated costs and benefits.

Glass collection options

Most local authority recycling services have evolved over time, being influenced by the local reprocessing infrastructure and outlets available. To ensure resident participation authorities should provide sufficient container capacity, appropriate collection frequency and clear instructions on how to take part. Other collections made at the kerbside will also influence success, such as any restrictions placed on residual waste quantities.

Dedicated collection rounds – fully colour sorted

Dedicated collection rounds mean that vehicles are used for the collection of glass only. Operating an entirely separate collection for glass is often introduced by

authorities that use a co-mingled collection for other dry recyclables, or by authorities that offer a limited recycling collection.

Residents would be expected to present glass at the kerbside in a separate container to any other recyclables, and crew would sort the glass into separate compartments for clear glass, green glass (including other colours such as blue), and brown glass.

Top tip: Kerbside sorting

Although kerbside sort services may not pass as many houses in a day as a wheeled bin round, they have other benefits. They remove the need for a Materials Recovery Facility (MRF) to sort material and reject less recyclables (as all sorting is done by hand). When assessing the environmental impact of your collection scheme—remember to take into account the impact of the MRF versus the impact of sorting the material at the kerbside, alongside the relative costs of each.

Did you know?



A major factor that determines the viability (and preferred method) of glass collection is the market value of the cullet, with higher cullet prices making it more affordable for authorities to operate colour-sort collections.

Scores for dedicated collection rounds – fully colour sorted

Ease of collection



Collections are easy to operate but are slowed by the colour sorting process. Collected glass can be bulked at a transfer station prior to transfer or delivered straight to reprocessors.

Quality of recyclate



Colour sorted cullet will be relatively free from contamination and can be used to create the full range of glass products. Probably the best quality cullet of all collection options (including bring sites).

Environmental performance



Colour separating the glass reduces the energy requirement of both reprocessors and the glass industry.

Cost of service



Relatively high operational cost partially offset by the revenues received for sale of materials.



Image supplied by Bath and North East Somerset Council

Case study: Colour sorting in action

Epsom and Ewell Borough Council in Surrey operates a weekly dry recycling scheme using side-loading “kerbsiders” to sort paper, cans and colour separated glass. The Council moved from mixed glass collection to colour separated when the value of mixed glass cullet dropped. A recent renegotiation of recycling material prices reinforced the argument to colour separate, and this system is now being taken forward in the new strategy for 2009.

These three streams ensure that the glass can be re-used in closed loop applications. As the collection crew sort materials at the kerbside, any contamination can be rejected – leading to a high quality feedstock for the recycling industry, and a valuable education tool for residents.

Local authorities can either sell glass directly to reprocessors, or if collections are operated by a contractor then they can negotiate an income-share agreement. A colour separated feedstock of this quality will be accepted by a wide variety of reprocessors.

Kerbside sorted dry recycling – including fully colour sorted glass

When collecting glass at the kerbside, it is more common to collect it alongside other dry recyclables. With a kerbside-sort service, residents can put a range of materials out for collection which are separated at the kerbside into a compartment (stillage or kerbsider) vehicle, which will have a compartment for each stream of dry recyclables, including three for colour separated glass.

Top tip: Training

Collection crews should be trained on the health and safety issues of kerbside collection including manual handling.
www.hse.gov.uk/

Scores for kerbside sorted dry recycling – including fully colour sorted glass

Ease of collection

3

Sorting material at the kerbside reduces the speed of collections compared to sack collections. However, innovative vehicle designs now exist to make the sorting process as easy as possible.

Quality of recyclate

5

The colour sorted cullet will be relatively free from contamination and can be used to create the full range of glass products.

Environmental performance

5

Colour separated cullet offsets the need for virgin raw materials in the glass industry, reducing energy requirements. Furthermore, the impact of the collection vehicles is greatly reduced, as is energy consumption at the MRF or transfer station.

Cost of service

med

Lower collection costs than a dedicated fully colour sorted glass collection, and when whole system costs are considered, comparable if not lower cost than co-mingled collections. Revenues from the sale of materials can be used to offset the costs of collection whilst co-mingled schemes involve the payment of MRF gate fees.

Depending upon the type and complexity of scheme you operate, the process of kerbside sorting removes most contamination and produces valuable, clean streams of recyclate. Colour-sorting the glass alongside sorting other materials should not delay collections enough to make them inefficient; however it is important that vehicles are correctly configured so that the compartments for each material stream fill at an even rate. These compartments will typically be emptied at a transfer station for bulking and onward transport.

Kerbside sorted dry recycling – two streams (clear and colour)

The primary need of the container glass industry is clear glass. With demand outstripping supply, a higher price is achieved for this material, so some authorities capitalise on this by segregating glass into two streams – clear and coloured.

Collection of two streams may also be in response to:

- available compartments on vehicles and collection/offloading logistics considerations (eg the need to weigh off individual material streams when tipping);
- a need to speed up collections - collections will be quicker for crew who only need to distinguish clear and coloured glass, but overall collection times will depend on the range of materials being collected;
- sorting technology available at the reprocessor; and
- commitment by the authority to send materials into closed loop applications.

A positive angle with any of the kerbside sorted options is that they have a higher recycling profile with the public. Where material is emptied, unsorted, into a refuse collection vehicle (RCV) there can be a perception that it is not actually recycled.

Top tip: Getting it sorted

Authorities that currently have an effective mixed glass collection in place may wish to investigate the end-use of the glass they collect. If they have an uncontaminated mixed glass stream that is currently used for aggregate, there may be an alternative reprocessor that can colour sort it, and return the glass to the container industry.

Scores for kerbside sorted dry recycling – two stream collections (clear and colour)

Ease of collection

3

Similar to fully colour sorted. So not expected to make collections significantly easier, nor lead to significant reductions in required resources.

Quality of recyclate

4

The level of variation in the coloured glass stream may prohibit closed loop recycling. Technology at glass recyclers may allow for colour separation, in which case both streams of glass can be fully recycled.

Environmental performance

4

The mixed colours in the coloured stream may prohibit recycling, depending on the technology available at the glass recyclers. Extra effort of separation at the kerbside would result in less energy needed by the glass recycler for separating colour streams (resulting in higher revenue for the material).

Cost of service

med

Similar to the kerbside sort option. The coloured glass stream will, however, generate lower revenue per tonne than a three stream glass collection. WRAP studies³ show marginal differences in cost between collections that separate glass into three streams and those that separate into two streams on a kerbside sort service.







Case study: Colour mixed collection

As part of a package of measures to improve its service, **Hart District Council** has developed custom-designed top-loader glass vehicles for colour mixed collections. The design and procurement of these vehicles (which includes a smaller vehicle for rural collections) followed the Council's commissioning of an ergonomics report advising on vehicle design, from both a manual handling and noise perspective. The vehicles include soundproofing in the bays and are loaded using slave bins. A recent HSE inspection identified no negative issues with the vehicles.

Colour mixed glass collections

Further down the good practice scale is colour mixed collection. This should only be used where resource constraints mean that the collection of colour separated glass is not possible. By collecting glass separate from other recyclables, mixed colour can still deliver a useful feedstock to glass manufacturers. Mixed-colour glass streams are either collected as part of a stand-alone scheme, a kerbside sort scheme or as an addition to a co-mingled dry recycling scheme.

The format of the collection is often influenced by the ability of local reprocessors to colour-sort the glass. If a reprocessor with optical colour-sorting technology is within suitable transport distance of the authority, it can make financial sense to collect mixed glass. However, if no colour sorting is available, then the collected material can only be used for open-loop recycling applications such as aggregates, and won't realise optimum value.

Scores for Mixed Glass Collections	
Ease of collection	 4
Kerbside sort schemes are well developed for the collection of glass. For co-mingled schemes, the glass can be added to an extra compartment on a modified RCV.	
Quality of recyclate	 3
A mixed recyclate will always be less acceptable to the container glass industry – but keeping the material separate from other dry recyclables is key to maintaining an appropriate quality for creating new container products.	
Environmental performance	 3
Mixed glass collections are of more benefit to the environment when the glass can be coloured sorted for closed loop recycling. This step may require more energy than the alternative of sorting the material at the kerbside, depending on the type of scheme used.	
Cost of service	 med
A lower revenue per tonne will be received for the glass compared to colour-sort options. Cost impacts for a kerbside sort service are likely to be negligible. ⁴ Investment in new vehicles may be required if a two-stream co-mingled collection is introduced.	

³ Wrap Report - The Cost and Operational Implications of Kerbside Glass Collections – KTF0017 – March 2006

⁴ Wrap Report - The Cost and Operational Implications of Kerbside Glass Collections – KTF0017 – March 2006

For standalone glass collections or kerbside-sort services, the time required to colour-sort glass may not significantly decrease potential collection round sizes. Some authorities operating co-mingled collections of dry recyclables (in wheeled bins) choose to collect glass separately in a box. The glass is emptied into a stillage or 'pod' on the vehicle, and kept separate from the rest of the dry recyclables. This prevents the glass being compacted and hence makes it easier to colour-sort, and avoids it impacting on the quality of other recyclates, primarily paper.

Fully co-mingled recyclables

This option is at the bottom of the good practice scale. While modern MRFs have technology that can separate glass co-mingled with other dry recyclables, the resultant glass is of a low quality, and only suitable for open-loop markets.

There is also concern that the co-mingling of other materials with glass can reduce their quality, particularly in the case of paper (see Top Tip: Know your MRF).

The perceived benefit of co-mingling glass with other dry recyclables is that it can be added to the existing co-mingled collection at little or no additional cost as generally capacity will be available in collection


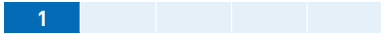
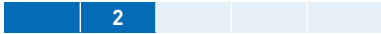
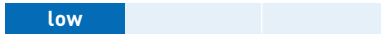
vehicles and containers for the additional material. However, to allow all the recycle streams to be separated, the collected material must be taken to an MRF where local authorities would be expected to pay a gate fee, which increases significantly if glass is added to the collection.

Top tip: Know your MRF

As well as the glass container industry having issues with the quality of cullet that can be derived from MRFs, the paper industry is also having difficulty getting recycle from MRFs that meets their quality specifications. Tiny glass shards in the paper pulp can damage the machinery used to produce new paper. Ensure that the MRF you are using is producing quality streams of recyclable material that meet the standards of UK reprocessors.

WRAP is undertaking a project to assess techniques for recycling glass from MRFs to container and other remelt applications. WRAP will share the results of this work with the industry as soon as they are available.

Learn more about MRFs at: www.wrap.org.uk/wrap_corporate/about_wrap/mrf_home_page.html

Scores for fully co-mingled recyclables	
Ease of collection	 5
Refuse collection vehicles can be used on alternate weeks for dry recycling (provided they are cleaned), and large round sizes can be achieved. Material is either taken to a transfer station for onward transport or delivered straight to a MRF.	
Quality of recycle	 1
Of all the schemes described in this guidance, collecting glass co-mingled with other recyclables produces the lowest quality cullet. The majority of glass collected through this type of scheme can only be used for low value applications, such as aggregate.	
Environmental performance	 2
The environmental performance of co-mingled collections is lower than those where glass is collected separately, as the benefits of closed loop recycling have not been realised.	
Cost of service	 low
Co-mingled collections can be less costly to operate but the collection cost is offset by a higher gate fee at the MRF and the lower revenue received for sale of the materials.	



Household Waste Recycling Centres (HWRCs) and bring sites

The first, sited in Barnsley, collected glass for recycling back into bottles and jars. This collection system quickly gathered pace and within 5 years the 1,000th bottle bank had been sited.

The cost of operating the UK's bottle banks depends on the method of collection, where:




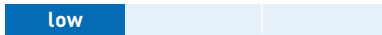
- a local authority may empty the banks as part of their domestic/trade collection service and sell the glass directly;
- a private contractor may take responsibility for emptying the banks and receive the revenue for sale of the materials; or
- a local authority may pay for regular collections by a private contractor, but receive a share of the revenue from sale of materials.

The quality of recycle from bring banks is high.

Did you know?

30yrs

2007 saw the 30th anniversary of the 'bottle bank'.

Scores for HWRCs and bring banks	
Ease of collection	 4
Collections are familiar to most authorities, and aided by more modern design of banks for easy collection. However, there is a need for servicing schedules that ensure banks are emptied at appropriate intervals.	
Quality of recycle	 5
The quality of recycle from bring banks is high, with only occasional contamination from incorrectly sorted glass.	
Environmental performance	 4
The environmental performance of bring banks is boosted by vehicles travelling less than for kerbside collections, and the ability to fully recycle the collected glass. However, depending on the location of the banks, residents' travel distances may outweigh any benefits. Location of the banks is therefore an important factor in their operation.	
Cost of service	 low
The cost of operating banks is low compared with kerbside collection services. When run in parallel with kerbside glass collection, some banks may not be cost-effective, depending on the contractual arrangements in place.	

Many authorities now provide communal recycling bins for blocks of flats, based for example on separate 240l bins for different glass colours. In addition to this, there are new types of bring facility coming online, such as reverse vending technologies operated at the front of retail stores. These machines typically sort beverage containers by material type, and consumers are rewarded with 'loyalty points' which can be redeemed against purchases in store.

Operating costs

The cost of operating the various glass collection schemes is dependent on a range of factors which will vary for each authority and need to be fully understood before you can make a decision.

Round size

Kerbside sort schemes typically have smaller round sizes than single stream or co-mingled rounds. Round size is dependent on: housing density of a local authority; the relative locations of the collection depot and reception facilities; and other factors such as a need to maintain same day collections with other services and levels of participation/set-out.

Vehicle, crew and management costs

Your round size and collection frequency will give you a rough idea of how many vehicles will be needed. In addition to acquiring vehicles (whether purchased outright or leased), their running costs and the costs of drivers, crew and supervisors/management must be added.

Container costs

If new containers are needed for a glass service, their costs will represent both a one-off investment and an annual replacement cost (for lost and broken containers).

Gate fees

For co-mingled collections, MRF gate fees need to be factored in. In two tier arrangements, the MRF gate fees may be paid by the disposal authority. At time of publication, MRF gate fees can range from around £28 to £45 per tonne for co-mingled collections including glass.



The UK glass industry is experiencing a shortage of high quality cullet for recycling.

Did you know?

240l

Many authorities now provide communal recycling bins for blocks of flats, based for example on separate 240l bins for different glass colours.

£28-£45

MRF gate fees can range from around £28 to £45 per tonne for co-mingled collections including glass.



Colour separated cullet offsets the need for virgin raw materials in the glass industry, reducing energy requirements.

Revenues and recycling credits

Finally, the revenue that can be generated from collections should be calculated. Waste composition, participation rates and material capture rates will influence the quantity of glass you collect. For each tonne of glass collected, calculate (where applicable) the income from recycling credits, and revenues for sale of glass. Remember: quality, colour sorted cullet will yield maximum value.

A WRAP study looked into the costs of adding glass or changing the method of collection of glass at four different authorities. You can download the full report from the <http://www.wrap.org.uk/document.rm?id=2892>

Top tip: Maximising site efficiency

Yields of glass collected at bring banks and HWRCs may drop in authorities where glass collections have been added to kerbside services. Many authorities therefore choose to reduce the number of bring banks they operate, maintaining a few at HWRCs and other strategic locations. However, many residents may still prefer to recycle their glass via bring banks, so before reducing the number of sites with bring facilities, consider monitoring the tonnages collected at each and strategically removing those with tonnage too low to make collections worthwhile.

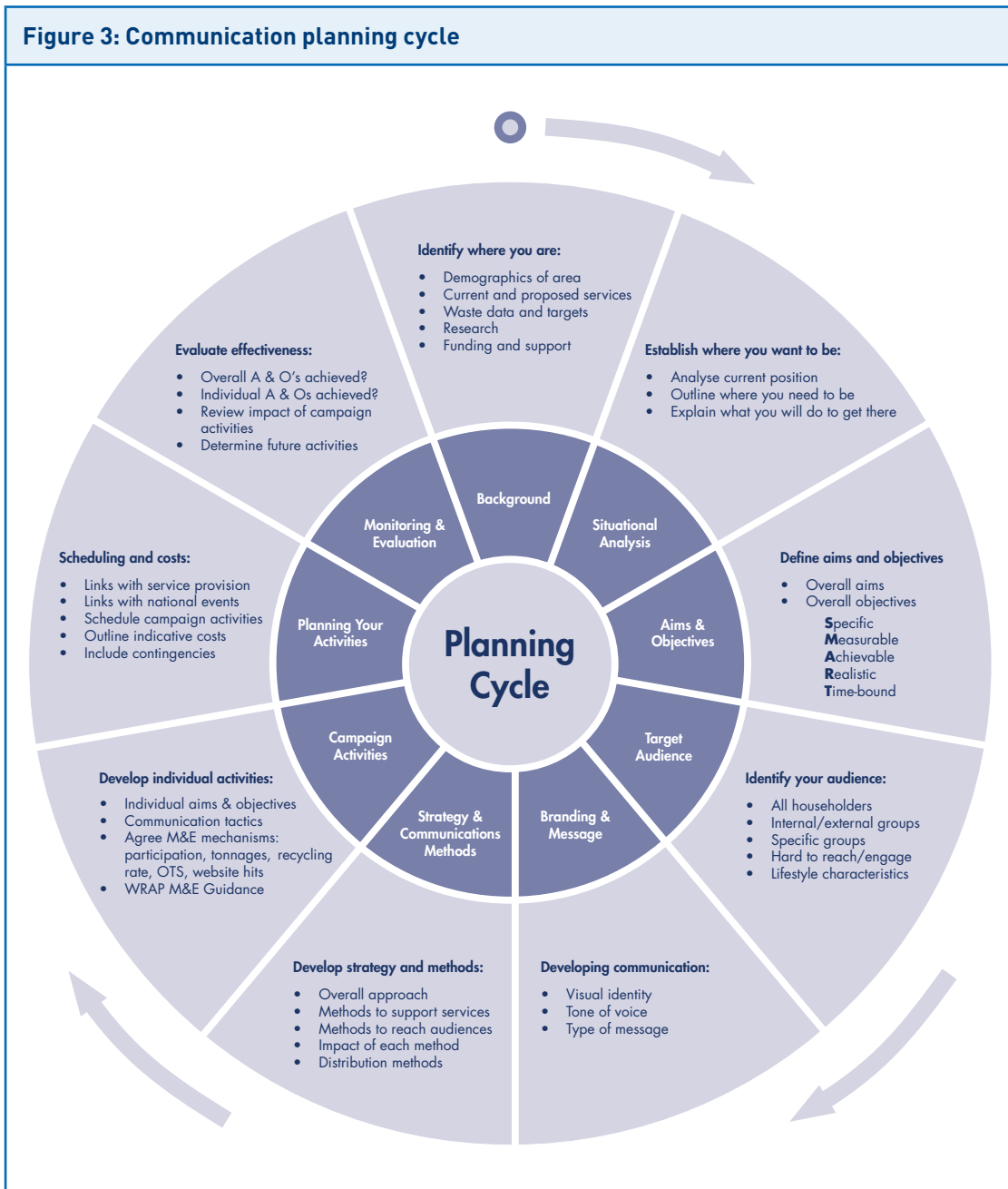
Good practice communications

When introducing, changing or promoting a glass collection service, clear, timely and relevant communications are the key to maximising performance. Having a good service is only part of a good strategy. A well planned, well delivered communications campaign lets residents know how, where and when to use their service.

Campaign planning

Planning is a critical element of any successful communications campaign regardless of the scale or subject matter. The more care taken prior to communicating with the target audience, the more successful the campaign will be.

Figure 3: Communication planning cycle



A guide to planning a local authority communications campaign is available from WRAP providing in-depth guidance on tying communications in with operational issues; defining target audiences; setting timelines and budgets; and detailing the strengths and weaknesses of common communication methods. Download the Communications Guide from www.wrap.org.uk/downloads/communication-guide.65e41685.pdf

Another useful tool is the communication planning cycle (figure 3). It plots a recommended path when preparing to deliver a new campaign, or re-assessing the performance of an existing one.

Choosing a campaign identity

For local authorities in England, the Recycle Now campaign is a source of quality communications materials focused on changing resident behaviour. By adopting WRAP's widely recognised Recycle Now campaign identity you can tap into the benefits of consistent messaging, cost savings and high recognition and recall, and access the resources required to develop a powerful and memorable campaign. For guidance on localising the Recycle Now brand to your specific needs, refer to the brand guidelines document at www.wrap.org.uk/go.rm?id=7904

Campaigns in Scotland, Wales and Northern Ireland will achieve the same benefits of a strong, established and consistent brand from using respective national or regional campaign resources. Download the following guidance:

- Waste Aware Scotland Campaign Brand Guidelines from www.wasteawarescotland.org.uk/pdf/bestPractice/brand_guidelines.pdf
- Waste Awareness Wales Brand Guidelines from www.recyclenowpartners.org.uk/government_departments/index.html
- Where existing local authority corporate or recycling design guidelines have already been developed, WRAP has produced a document highlighting basic design principles. This gives practical suggestions on the design of effective communications for use either by those producing or assessing communication pieces or in the preparation of a brief to an external designer. These principles can be applied to collection calendars, leaflets, adverts and most other marketing communications. Download the guidance from www.wrap.org.uk/document.rm?id=3591

Communicating a new or improved service

Your communications need to be tailored to reach their audience and change their behaviour. The section below briefly explains good practice methodology and recommended communication types that should, as a minimum, be used.

To ensure maximum buy-in, residents will need to be aware not only of what the new service will be and how it will affect them, but also why the change is occurring (see example of communications material in figure 4).

Consider phasing the information provided to residents over the weeks preceding, during and following the change using a mix of directly targeted communications and PR (see example of communications material in figure 5):

- For both new and modified services and facilities, give the rationale for the change and detail what the changes will look like, who they will affect and when they will happen. Recommended media: direct mailed leaflets, posters in communal areas, press releases and internal briefing sessions for customer facing teams.

A well planned and delivered communications campaign will encourage residential participation.



- With the roll-out of a new service, provide details on correct use of the service, service dos and don'ts, and where to get more information. Recommended media: leaflet distributed with receptacle, revised service calendar, point-of-recycling media (eg bin stickers or bin hangers), press releases, road shows and events.
- New or improved bring sites and household waste recycling centres (HWRCs) should have their locations and accepted materials communicated to their potential users. Recommended media: online web presence with 'bank finder', branded bags to store and transport recyclable materials, direct mail leaflets or flyers and/or features in recycling or council newsletters.
- Clear directional and on-bank signage at HWRCs is essential to maximise the capture of recyclable materials. Details of good practice signage can be found at www.recyclenowpartners.org.uk/local_authorities/quick_start_tool/creating_site.html
- Consider providing ongoing feedback on residents' performance in both new and modified schemes and pre-empt queries through regular FAQs. Recommended media: web page performance updates, press releases, posters in communal areas, point of recycling media and regular newsletter updates on performance including seasonal features encouraging recycling of glass.
- Keep residents informed and motivated with information on what happens to the glass they collect, and the resulting environmental and economic benefits (see figure 5). Recommended media: web page or newsletter, glass recycling statistics and environmental benefits.

Top tip: Set campaign

A campaign aim is a general statement of purpose or intention, eg to encourage residents to participate in the kerbside glass collection service. An objective can be seen as a clear statement of what you are planning to achieve, quantified and given a specific timescale, eg to achieve an average participation rate of 70% in the kerbside glass recycling collection service by March 2009.

Following the roll-out of service changes, it is important that ongoing monitoring of performance be carried out to highlight potential areas for improvement of scheme usage and material quality. Poor performing areas should receive tailored communications aimed at increasing participation and capture, and reducing contamination. For more information on carrying out participation monitoring and contamination studies, download WRAP's guide to monitoring and evaluation: www.wrap.org.uk/downloads/Chapter_8_Monitoring_Communication_Campaigns1.e65ab1bf.pdf

Improving behaviour – participation levels

Reasons for low participation in recycling schemes or high levels of contamination can be varied. Recommended routes include attitudinal surveys, focus groups investigating barriers to recycling, citizens panels, public feedback and information from crews.

Commonly reported barriers to correct participation in recycling are a lack of understanding of schemes (what materials are collected and collection dates) and misconceptions of the value of recycling.

Figure 4: Suggested service change pictures



Figure 5: Suggested communications pictures

Combined with these, other socio-economic, ethnic, religious and geographical factors can be a barrier to recycling. Tailored messages and communications should be developed to change the behaviour of poor performing audiences (see examples in figure 6):

- Provide clear, highly visual and easy to follow information about service details, range of materials and collection frequency, supported by information on the financial and environmental benefits of recycling. Recommended media: pictorial leaflets or flyers distributed directly to non-participants by recycling crews, distribution companies or door to door canvassing staff brought in to target low participating areas.
- Provide reminders on, or near the point of recycling to encourage residents to recycle more things, more often. Recommended media: bin or box stickers with information on recyclable and non-recyclable materials.

Figure 6: Suggested participation pictures

Improving behaviour – reducing contamination

Contamination of glass collections is a real problem that authorities face. Where glass is sorted at the kerbside, contamination with unwanted items means additional work for the collection crew and rejected materials can result in disillusioned residents. Where glass is collected co-mingled and processed in a MRF, contamination can lead to retrospective charges to the local authority and additional work pulling out contaminants. Worse again is where glass is collected at kerbside and unspotted contaminants lead to whole loads being rejected by reprocessors.

Figure 7: Reducing contamination – suggested pictures

The most constructive measure to tackle contamination at source is effective, targeted communication to areas/individuals identified as not taking part correctly (see examples of communications material in figure 7). This should highlight the issues and repercussions of glass contamination and provide simple steps for recognising recyclable and non-recyclable glass. Recommended media: direct mail (leaflet or letter), telephone guidance, contamination cards/bin hooks or doorstep canvassing.

Support and further information

WRAP provides a wealth of additional information and support to local authorities.

Technical support

WRAP's advisory team, ROTATE, provides local authorities in England and Northern Ireland with free, bespoke, advice on the design, operation and performance of their collection schemes as well as on designing and running local communications and awareness programmes.

Potential areas of support include:

- Evaluation of collection options, systems and costs;
- Review of existing operations and advice on good practice and operational efficiency; and
- Advice on end market and material quality issues.

Further information is available at:
www.wrap.org.uk/local_authorities/index.html

Sharing good practice

One method of improving the quality of any glass collection is to work through common problems with other authorities and organisations with relevant experience.

WRAP can provide local authorities with information and materials to help forge stronger links with residents, collection contractors and reprocessors. Materials available include good practice guidance, fact sheets and case studies. These are available to help keep local authority officers and members informed of the issues surrounding the recycling of container glass and are available at:
www.wrap.org.uk/manufacturing/index.html

Training

WRAP offers training aimed at recycling and waste managers in local authorities, not-for-profit/community organisations and private waste management companies, who are directly involved in delivering and managing local authority recycling services.

Training for collection operatives is available through the delivery of toolbox talks which aim to provide operatives with a better understanding of the recycling industry, the role they play in the delivery of an efficient, effective and customer-focused collection service as well as an understanding of the markets available for recyclables and why 'closing the loop' is important.

For information on all WRAP training visit:
www.wrap.org.uk/wrap_corporate/events/index.html

Useful links

WRAP

www.wrap.org.uk

Behavioural Change Fund

www.wrap.org.uk/local_authorities/behavioural_change/index.html

Recycle Now

www.recyclenow.com

Recycle Now partners site

www.recyclenowpartners.org.uk

British Glass

www.britglass.org.uk/Index.html

DEFRA

www.defra.gov.uk/

For more help and information on raising the quality of the glass you collect, please contact WRAP.

Written by:

Entec

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