

How to provide re-use at HWRCs



A guide to setting up re-use systems at household waste recycling centres

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

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

Find out more at www.wrap.org.uk

Document reference : [WRAP, 2015, Banbury, How to provide re-se at HWRCs, Prepared by Resource Futures]

Written by: Eric Bridgewater and revised by Emma Clarke, Resource Futures



Front cover photography: HWRC Sign

While we have tried to make sure this report is accurate, we cannot accept responsibility or be held legally responsible for any loss or damage arising out of or in connection with this information being inaccurate, incomplete or misleading. This material is copyrighted. You can copy it free of charge as long as the material is accurate and not used in a misleading context. You must identify the source of the material and acknowledge our copyright. You must not use material to endorse or suggest we have endorsed a commercial product or service. For more details please see our terms and conditions on our website at www.wrap.org.uk

Contents

- 1.0 Introduction 4**
- 2.0 Drivers for re-use at HWRCs..... 5**
 - 2.1 Improving site performance5
 - 2.2 Moving from waste to resources.....5
- 3.0 Calculating the potential of a re-use scheme 6**
- 4.0 Options for re-use..... 8**
 - 4.1 Deciding which re-use system to adopt8
 - 4.1.1 On site storage for removal by a third party 10
 - 4.1.2 On site sale (outdoor) 11
 - 4.1.3 On site shop (indoors)..... 11
 - 4.1.4 On site re-use workshop..... 13
 - 4.1.5 Onsite or offsite storage for one-off sales..... 13
 - 4.1.6 Area-wide re-use hubs 13
 - 4.1.7 Online sales and exchange..... 14
 - 4.1.8 Auction houses and traders..... 14
 - 4.2 Working in partnership to deliver re-use services 14
 - 4.2.1 Initial considerations 14
 - 4.2.2 Scoping and selecting partners..... 15
 - 4.2.3 Assessing the capacity of potential partners 16
 - 4.3 Choosing which items to collect for re-use..... 17
 - 4.4 Off-site partners..... 18
 - 4.5 Developing contracts for re-use..... 19
- 5.0 Operating a re-use system 21**
 - 5.1 Financial considerations 21
 - 5.2 Practical considerations 21
 - 5.3 Administrative considerations 22
- 6.0 Measuring the impact of re-use..... 24**
- 7.0 Summary 25**

1.0 Introduction

The purpose of this guide is to inform anyone funding or running household waste recycling centres (HWRCs) of the options and opportunities available when introducing or improving re-use services.

Advice is provided for local authorities, waste management contractors, social enterprises and charities, and other potential partners.

For HWRC operators not currently offering re-use, this guide provides a list of considerations and outlines practical options for service implementation. It will also be useful for HWRC operators wishing to improve their existing re-use arrangements. Snapshot examples will inspire operators to overcome common barriers to running and improving re-use systems.

Many HWRCs have re-use schemes that are well-run, well-used and valued in their communities. Re-use of one or more particular items/materials such as tools, paint, clothing, books, mobile phones or bicycles has occurred at many sites for a number of years. Often re-use of the item and/ or the re-use operator (i.e. organisation servicing the container) is well known and site users are not required to change their perceptions of second-hand or their behaviour when on-site. However some authorities have operated more complex re-use systems for a number of years and it is becoming more common. New on-site shops are opening throughout the UK on a regular basis. HWRC shops of a variety of sizes are successfully diverting material for re-use and delivering a variety of benefits.

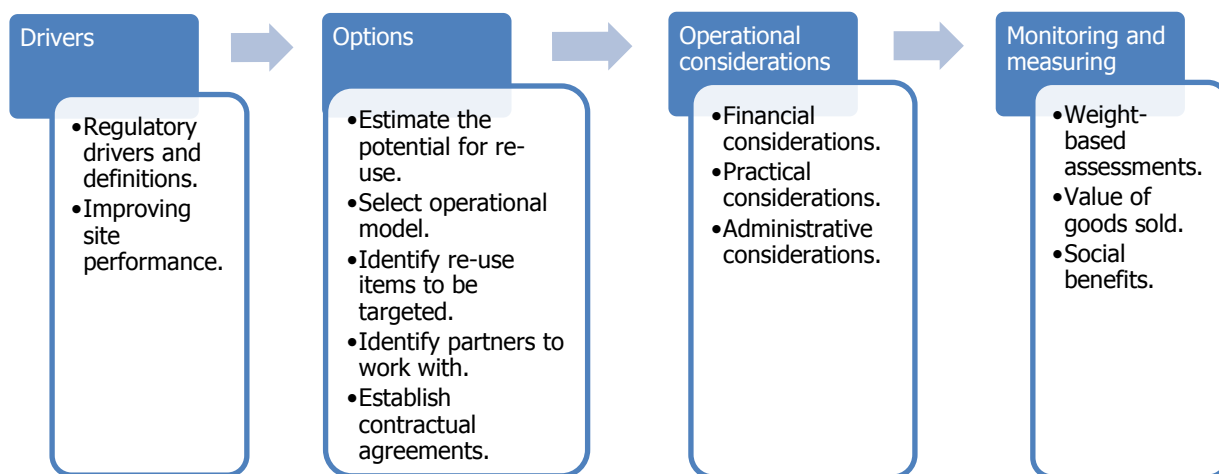
Re-use systems can have positive impacts beyond the tonnages diverted for re-use, by generating income from the sale of items, enhancing site-user awareness of waste minimisation, re-use and recycling, significantly increasing site recycling performance, and reducing disposal costs for the local authority.

A complementary guide [How to include Re-use in HWRC procurement](#) is also available from WRAP. The purpose of this guide is to inform anyone funding or running HWRCs of the procurement options and opportunities available when introducing or improving re-use services. The primary audience will be those local authorities and their partners that are funding or running HWRCs, so advice is provided for local authority waste and procurement departments and waste management contractors. However, the guide will also help social enterprises, charities, and other potential partners to gain an understanding of the local authority procurement process.

Often local authorities are partnering with local social enterprises and charities that repair and redistribute second-hand goods as they will understand the market demand for different re-use items. Suitable partners may include furniture recycling charities, housing associations and local authority housing or welfare departments. For advice on developing local partnerships and networks, see the WRAP guide [How to set up and run a re-use forum](#).

There are a number of different options for implementing re-use at HWRCs, in terms of which system to adopt and which partners to work with. This guide is designed to make choosing the right system and partners a straightforward process. The process is summarised in the four steps shown in figure 1 below.

Figure 1 Developing a re-use strategy for HWRCs



2.0 Drivers for re-use at HWRCs

Establishing the drivers for introducing or improving re-use systems helps to gain buy-in from local authorities and other affected stakeholders.

This section summarises the performance-related drivers for HWRC re-use. A more comprehensive list of relevant drivers can be found in WRAP's [How to develop a re-use strategy](#).

2.1 Improving site performance

Re-use has a positive impact on recovery rates at HWRCs. Research conducted for WRAP in 2016 collated data from a number of local authorities that have on-site shops and re-use containers which showed that re-use accounted for 0.3-3.9% of site throughput. Any clothing banks etc. and re-use of WEEE by a Producer Compliance Scheme post collection from the HWRC would be additional. The re-use rate can be added to the recycling rate.

2.2 Moving from waste to resources

There is strong evidence that re-use also has a disproportionately positive effect on recycling. The National Assessment of Civic Amenity Sites (2004) found that sites which included a re-use service recovered between 4-5% more material for recycling than those without a system. Although the reasons for this are not fully understood, it is thought that the presence of re-use systems changes the public's perception of the site, and contributes to increased user-awareness of recovery in general, which in turn encourages more material separation. Subsequent research has supported this finding, although sites with poorly run re-use systems did not produce the same positive effects on recycling rates. It is therefore essential to run a re-use system well, raising public awareness and encouraging both re-use and recycling.

3.0 Calculating the potential of a re-use scheme

Records from current re-use activities

For existing HWRC re-use systems, the following methods can be used:

- where products are sold on-site, items are usually recorded in a sales ledger; and
- where external organisations are involved, agreements can be made whereby items are recorded as they are loaded and removed from the site, and tracked through to sale or other destinations.

It can also be useful to record items that have been separated for re-use but then rejected, as well as the reason for rejection (such as capacity of the site to store or handle the product, or the condition of the item). This data can be used to better plan for items which could be targeted for re-use in the future.

Site-based observations

A simple monitoring exercise can be carried out by allocating one or two staff members or an external organisation to make a visual estimation of potentially re-usable items as they are unloaded by residents. Depending upon the size of the HWRC, it may only be necessary to carry out monitoring over a few days each year. It is advisable to sample both weekdays and weekends as the items brought to the site are likely to vary.

Products can be categorised by type and the number of items recorded. Grouping items under broad headings will make recording and analysis simpler. It may also be advisable to record the condition of items. For example, whether the item is re-useable in its current condition or whether minor repairs are required. If major repairs are required, in most cases it should not be categorised as suitable for re-use.

In some cases, a visual inspection will not be enough to determine whether an item is re-usable, for example mains electrical and electronic equipment (EEE) cannot be switched on, and it is not always suitable to carry out a Portable Appliance Test (PAT) on site.

Estimating from reference data

While it may not be possible to establish the exact amount of re-usable materials delivered to an HWRC, it is relatively straightforward to estimate using the Furniture Re-use Network's (FRN) [list of average weights](#). The Furniture Reuse Network (FRN) has prepared the Product Weight Protocol (PWP) which provides average weights of different household items. This dataset is formally recognised by the Environment Agency. In order to use the PWP data, an individual organisation is required to obtain a licence from the FRN. For further information visit <http://frn.org.uk/>

As yet there is no complete picture of the proportions of waste that might be suitable for re-use at HWRCs. However, [WRAP's study into bulky waste](#) can help operators with decision making.

Table 1 shows a typical breakdown for a range of bulky waste items based on an HWRC with an annual throughput of 6,000 tonnes (broadly in line with the average HWRC throughput in England). A supplementary Excel spreadsheet is included with this guide to help HWRC operators calculate basic throughput statistics.

Table 1 Estimates of bulky waste arisings from an HWRC with an annual throughput of 6,000 tonnes (excluding inert materials)

Type of products	Typical HWRC throughput categorised as bulky waste	Estimated bulky waste arisings (tonnes)	Typical proportion of bulky waste available for immediate re-use without repair	Estimated amount of bulky waste available for immediate re-use (tonnes)
Furniture	36.5%	440	28.8%	127
Textiles	18.6%	224	28.5%	64
EEE	20.7%	250	44.6%	111
Fixtures & Fittings	12.3%	148	28.5%	42
Garden/Outdoor	6.0%	72	21.9%	16
Mixed	6.0%	72	40.1%	29
			Total:	389

It is important to bear in mind that there are many smaller items that might be suitable for re-use which are not included in **Table 1**. Whilst the weight of these items may be small, the re-sale value may be significant. Also, waste electronic and electrical equipment (WEEE) items in the above study were only assessed visually by criteria such as the presence of a remote control for televisions or the presence of an attached plug and power cable.

In March 2016 Resource Futures carried out research on behalf of WRAP to investigate the potentially reusability of items disposed of in residual waste containers. The survey suggests that a significant proportion of items within residual waste skips are re-usable. The bulky items of furniture, mattresses, carpet and underlay were found to be the least re-usable of all the items observed. For mattresses, carpet and underlay, this is mainly due to a lack of markets rather than quality, whereas for furniture, it is as a result of quality. However, there is likely to still be sufficient stock for a re-use shop on or offsite. Small miscellaneous items and garden items were the items most commonly found to be re-usable.

The surveyors estimated that 37.8% of all items were suitable for re-use (taking account of soiling of soft furniture and the presence of fire labels). Excluding carpets, underlay and mattresses due to low market demand, 29.5% of all items were suitable for re-use. Small items accounted for only 3.1% of all items by weight, but they accounted for 24.1% of the composition by total items (small kitchen items were common) and over two thirds were deemed to be suitable for re-use. These items would be suitable stock for an HWRC shop.

Waste composition analysis

Some HWRC operators hire contractors to carry out compositional analyses to monitor performance and identify items that could be diverted from landfill. When contracting these services it is important to ensure that re-use items, and their state of repair, are included in category lists.

More thorough information on data gathering can be found in the WRAP guide on [How to establish a re-use baseline](#).

4.0 Options for re-use

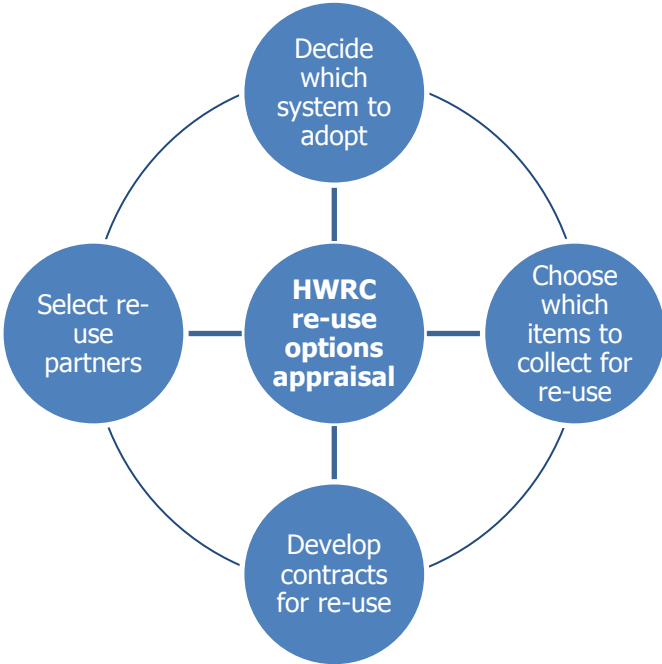
To help establish the right re-use system for your HWRC, four factors need to be carefully considered:

- which partners (if any) to work with in running a re-use system;
- what types of items to target for re-use;
- which practical system to operate to divert re-use at the HWRC; and
- any incentives (or disincentives) in the current contract for re-use.

These considerations impact on each other, so it is helpful to consider them all in the planning phase. For example, if the re-use system is to be operated by a social enterprise or charity, but the suitable local organisations only deal with furniture, this will affect which items to target. Equally, if items are to be sold or exchanged on site but no facilities are available to PAT test electrical items, then arrangements need to be made for these items to be taken off-site for testing prior to sale.

Additional discussion of re-use systems on HWRCs can be found in WRAP's [HWRC Guide](#).

Figure 2 Overview of the re-use options appraisal process



4.1 Deciding which re-use system to adopt

A number of options are available to HWRC operators to separate and collect items for re-use. This section provides a summary of some of the most commonly used models. The various systems may involve working with different partners or training site staff in different skills.

Table 2 summarises the benefits and drawbacks of common re-use systems. More information on each of these options is provided in the following sections. Many can operate as standalone options; some can operate in conjunction with other options.

Table 2 Benefits and drawbacks of common re-use systems

Re-use model	Benefits	Drawbacks
On site storage for removal by third party	<ul style="list-style-type: none"> ■ Can be operationally simple to implement. ■ Involving a social enterprise or charity can raise the profile of HWRC re-use and its benefits for the local community. ■ Requires the least amount of space, for example a 20-40ft container or shed. 	<ul style="list-style-type: none"> ■ If the third party does not have the capacity to remove goods on a regular basis, it can cause operational challenges. ■ Potential for double-handling of items which are removed by a re-use partner and then rejected and returned to the site.
On site sale (outdoor)	<ul style="list-style-type: none"> ■ Can generate income for the HWRC operators or local authority. ■ No need to transport goods. ■ Increased staff moral due to diversification of roles. ■ Rejected products can be easily diverted for recycling or other recovery. 	<ul style="list-style-type: none"> ■ Set-up costs including shelter and storage, and training site staff. ■ Space required to display products for sale. ■ Increased burden of liability for second-hand goods sold. ■ Potential distraction for site staff caused by more interesting, new activities (re-use and preparation).
On site shop	<ul style="list-style-type: none"> ■ Goods can potentially be sold at a higher price. ■ Re-use partners can give the scheme a positive image with a known brand and local cause that benefits. ■ Shop can be used to advertise local authority services to new audiences. ■ Can attract customers who would not otherwise visit a HWRC. 	<ul style="list-style-type: none"> ■ Increased overheads such as utility bills, rent and rates. ■ Requires dedicated staff who can multi-task with other HWRC activities. ■ Potential for increased levels of site traffic, as shop becomes popular which can require amended traffic flow. ■ Adequate space for parking required.
On site repair workshop	<ul style="list-style-type: none"> ■ Can provide much needed space for the sorting and testing of products before sale. ■ Reduces the need to transport goods for repair. ■ Can allow multiple re-use retailers to collect items that are already sorted and ready to sell. ■ Requires less space than selling goods on site. 	<ul style="list-style-type: none"> ■ Can be frustrating for site users wishing to purchase items they see being repaired or stored. ■ Site users tend to only see a drop-off point, not the activity behind it. ■ Requires indoor space for repair and storage on site.
Onsite or offsite storage for one-off sales	<ul style="list-style-type: none"> ■ Minimal resource input required from site staff and officers ■ Can coordinate with Welfare Department to allow access to the items to vulnerable individuals and families in need 	<ul style="list-style-type: none"> ■ Requires suitable large storage space ■ Requires communications to promote each on-off event ■ May require officers to work overtime to manage events (e.g. at weekends)
Area-wide re-use hub	<ul style="list-style-type: none"> ■ Centralisation of skills for preparation/refurbishment. ■ Increased choice of items in one place. ■ Vocational training or adult learning can be provided. 	<ul style="list-style-type: none"> ■ If located away from an HWRC then site users are not engaged. ■ May require significant capital expenditure.
Online sales and exchange	<ul style="list-style-type: none"> ■ Can reach a different or wider market of those who would not otherwise come into contact with items. 	<ul style="list-style-type: none"> ■ Requires a dedicated storage facility either on or off site. ■ Site users might not be aware of the service and therefore not separate

Re-use model	Benefits	Drawbacks
	<ul style="list-style-type: none"> ■ Can be helpful in selling more unusual items. 	<ul style="list-style-type: none"> ■ items for re-use. ■ Restricts access to items to those with internet connection. ■ Need to agree on where items are sold and who is responsible for managing the process. ■ Requires a dedicated, separate operative. ■ Although this method is used extensively by private re-use organisations, there are no examples of use in a HWRC setting.
Auction house	<ul style="list-style-type: none"> ■ Can provide an outlet for more valuable items. ■ Can be a useful outlet for multiple items which can be sold in batches to increase throughput. 	<ul style="list-style-type: none"> ■ May require specialist training for site operatives to identify more valuable items. ■ Need to agree on where items are sold and who is responsible for managing the process.

4.1.1 On site storage for removal by a third party

Third party involvement in the removal of re-use items from HWRCs for repair and redistribution or sale is commonplace. The approach is relatively straightforward to implement, requiring the site operator to:

- provide an area for storing items for re-use (e.g. a building, lockable shipping container or bring bank);
- identify suitable third parties who will service the re-use storage area on an agreed basis;
- agree with third parties which items should be separated on-site, and what condition those items should be in;
- ensure that site staff understand and support the re-use system;
- agree with third party the process for managing items that has been segregated that they do not want (i.e. do they sort onsite or remove everything and are they allowed to return waste), see below; and
- ensure that the public take appropriate re-use items to the storage area, through appropriate signage and directions from site staff.

As with many aspects of HWRC management, it will take some care and effort to establish the system and have it operating smoothly.

Operational considerations

It is important to consider whether the third party will manage the entire process or simply collect items that have already been separated by site staff. Either approach will require careful selection of items so as not to burden organisations with unwanted items. Operators will want to avoid double-handling of returned items unsuitable for repair or resale. Therefore, it is helpful to assess items before they leave the site against pre-agreed criteria. These criteria should be regularly reviewed to make sure they are fit for purpose.

Managing site user perceptions

If not clearly communicated, re-use activities can sometimes be misinterpreted by site users, who may perceive the collection of items as a private stockpile for site workers. It is therefore important to provide information for the public on who will benefit from the items. This can further reinforce a positive image of the site; anecdotal evidence from UK charities

shows that residents are more supportive of facilities that support local charities; however their support may not translate into higher tonnage or revenue.

Ensuring HWRC site staff cooperation

Site workers need to be clear that any items separated for re-use are to be collected by the third party and are not intended for individual benefit. This arrangement needs to be carefully communicated to all staff. Guidance on this is provided in Section 5.3.

However, the benefits to staff moral can be considerable as HWRC staff may not have previously had much variation in their roles. Presenting them with new opportunities may reinforce their commitment to the site's core values and further encourage them in their material diversion tasks.

4.1.2 On site sale (outdoor)

Significant income can be raised by selling goods on site, which can be used to offset the operating costs of the HWRC. A further cost-saving benefit is that this approach minimises the handling and transport of products.

However, it should be considered that a shop on site could create a distraction for staff members who find re-use activities more interesting than other tasks. This can lead to staff neglecting their normal duties of managing material separation for recycling, which should be the main focus of the site.

Physical footprint

Selling goods on site takes more space than other options, although the footprint of the shop area can still be quite small. The shop will need to provide shelter and security, and customers will need a car park. When space is limited, retail should be prioritised over storage of items.

Attracting consumer interest

The value of creating eye-catching and uncluttered displays of goods should not be underestimated and it is likely that operatives will require training in this area as well as in stock control systems. Many second hand shops operate a system in which products are labelled with a shelf life to prevent the build-up of undesirable items over time.

Managing operations

Operators who wish to keep re-use activities separate from recycling undertakings can compartmentalise the operation by creating a distinct re-use team or work with a partner organisation. Involving experienced people from partner organisations can be beneficial as it avoids the need to train site-staff and removes the site operator's liability under Trading Standards legislation. However, in this arrangement the operator will need to agree risks, costs and profit share.

4.1.3 On site shop (indoors)

Selling reusable products via a shop is a more sophisticated extension of the system described in the previous section. A shop can be built on site provided there is adequate space, though this will of course require capital investment. Goods can be sold for a higher price when well-presented in a shop environment, and people tend to be keen to both visit and work in these shops. A re-use shop may encourage site users who would not otherwise use charity shops to donate goods for re-use. The shop can also be used to promote the local authority's waste reduction and recycling strategy and services.

Drawbacks of this system include the need for parking spaces and managing traffic flow, as shop customers can spend a long time browsing. Higher operating costs such as utilities, premises and insurance can be offset by organising a financial return from the arrangement. Staff will not be able to multi-task in the same way as they would with the outdoor sale of items, therefore dedicated shop staff will be required. It is likely that staff will also need to be trained in retail skills, as different standards and skills are expected in a shop premises. Further discussion of onsite shops and data that may help develop a business case is provided in the [2016 HWRC shops overview](#).

Size of facility

The size of the re-use shop and dedicated parking area tends to be primarily determined by the space available on site, although this can easily be underestimated on busy sites. An estimate of the tonnage or number of items available for re-use will help when calculating the required shop size.

Anecdotally, parking requirements are always underestimated, especially if the shop becomes very popular. It may be necessary for one of the re-use staff to also monitor parking and manage traffic flow.

Traffic flow

People visiting the re-use shop will be parking for longer than other site users, so a separate 'loop' or bypass lane for the re-use shop can help to avoid blocking the flow of traffic through the site. Locating the shop close to the entrance also means the site meet-and-greet operative can monitor the flow.

Planning permission

The site will need to make sure it operates within the necessary legal framework to sell goods, including obtaining planning permission, even for temporary buildings.

Incorporating preparation activities

Preparation activities may range from a simple visual inspection to complex refurbishment or 'remanufacturing'. Whilst a visual assessment is effective for furniture or bric-a-brac, other items such as electrical or motorised goods will require a trained professional to certify them for safety and functionality. Many larger shops have staff that can PAT test and conduct basic function tests for items with one or two functions, e.g. lamps.

More extensive refurbishment activities will require additional trained staff, which can be costly. There are examples of more complex and larger warehouses such as Banbridge Restore. A case study is available on the [WRAP website](#) to illustrate their service. However, unless unlimited space is available, local authorities are encouraged to prioritise retail and PAT testing only over large scale refurbishment.

Preparation for re-use activities can be incorporated with the support of a third party such as a re-use organisation or private trader. This is particularly beneficial for electrical re-use; an example is a partnership between a local authority and vacuum cleaner specialist. For every five vacuums taken for repair, two are returned refurbished for sale in the onsite shop and the other three are retained for sale by the specialist. No money changes hands in this scenario.

4.1.4 On site re-use workshop

Where there is more space available on a site than just for storage, but not enough for a dedicated re-use shop and parking, then a re-use workshop can be installed to prepare items for retail (cleaning, testing and repairing as required).

This type of operation can involve substantial investment depending on the testing and refurbishment facilities being set up, or it might be as basic as a large shed containing hand tools.

Case study: on site re-use workshop, Western Riverside

Western Riverside Waste Authority (WRWA) in London is working with the London Re-use Network and several re-use organisations on its Smugglers Way site. Cory Environmental manages this new site, which includes tailor-made facilities for storing and testing furniture and WEEE. The re-use facility is managed by Groundwork and takes items from site users as well as from the bulky waste collections from authorities that make up the WRWA. A number of re-use organisations across the area then retail the checked and refurbished items.

Case study: on site re-use workshop, West Berkshire Council

The Community Furniture Project (Newbury) runs a shed at Newtown Road HWRC in Newbury, which accepts a wide range of goods and undertakes sorting, cleaning and basic refurbishment on site. The site is managed by Veolia, which included provision for a re-use shed run by a community group in its long-term waste management contract with West Berkshire Council. The shed is 315m², cost £55,000 to construct in 2008, and diverts well over 100 tonnes annually via the offsite shops run by The Community Furniture Project.

4.1.5 Onsite or offsite storage for one-off sales

There are examples of local authorities segregating items for re-use at HWRCs and storing them for one-off sales when the container or building is (nearly) full. This is likely to work best if there is a relatively large covered area in which to store items, otherwise stock will build up too quickly and sales will be required on a regular basis. In this scenario site staff segregate items but the sale events are often organised by waste management officers (e.g. recycling officers). The sale will need to be advertised within the community and staff available to retail and manage the event. Items are often extremely cheap to encourage sales and therefore the income per tonne is likely to be lower than for onsite shops. However it may be a preferable option for bulky items.

If such a re-use system is in operation and managed by waste management officers rather than HWRC site staff, officers can liaise directly with colleagues in the Welfare Department to allow vulnerable individuals and families first access to the items and staff may agree items can be taken for free in these circumstances. This helps the welfare support budget to be extended and provides good value for money.

4.1.6 Area-wide re-use hubs

Centralised hubs for collating items suitable for re-use can be located on one HWRC or remotely. Under this system, re-use items are amassed centrally from several HWRCs and a handful of staff oversee activities. This approach is particularly suitable for authorities with several small HWRCs and is taking place in Buckinghamshire (see the [online case study](#)) and Hull and East Yorkshire

With products arriving from a range of sites, centralised hubs tend to hold a broader variety of items, thereby improving the likelihood of a sale.

4.1.7 Online sales and exchange

Many re-use businesses now use online trading sites such as eBay or Gumtree to market second hand products. In addition, several free exchange sites such as Freegle or Freecycle may prove useful for passing on goods which cannot be sold and would otherwise be recycled or disposed of. One advantage of online sales or free exchange is that items are made available to people who would not otherwise visit charity shops or HWRCs. That said, not everybody has internet access or participates in internet shopping, so this approach would reach potentially quite different groups of people.

Online sites provide a particularly good outlet for more unusual items, which may stand more of a chance of finding a new owner from amongst the wider internet audience.

Online sales can be managed by a member of staff who will need to photograph and catalogue items, communicate with prospective buyers, and then package and post the items to the buyer. Alternatively this role could be outsourced to a charity or re-use organisation with an established system for online sales. Alternatively, the online sales can be managed in-house/ by the contractor but the buyer is required to collect from the site.

4.1.8 Auction houses and traders

Auction houses can provide a significant income stream and in recent years HWRC operators have begun to make more use of them. Although they can be associated with higher value goods, many items from HWRCs may be suitable – such as electrical goods, bicycles and motorised products. Items can also be sold in lots (bundles of multiple items), which increases throughput. Often there are local traders that are interested in purchasing specific items, often electrical. It is recommended that all items are PAT tested and any that do not pass are recycled. However it is possible that the function test can take place offsite by a third party. The items are stored and sold for re-use and therefore the waste Duty of Care does not apply. Items can be sold as seen or sold for repair or onward sale within the UK. Traders can be requested to sign a statement to state that they acknowledge the status of the items and they are for sale in the UK only. Within this option in particular it is important to be aware of the end of waste criteria. A [briefing note has recently been published by the Environment Agency](#) to help identify when items are waste and when they are not waste and therefore not subject to waste legislation.

In particular, a significant income stream can be generated by selecting higher value items for sale. Identifying suitable items requires staff to be specially trained on how to recognise the value of goods such as antiques and jewellery which may prove profitable. Several courses are available, including “Antique Awareness” and “Jewellery Identification”.

4.2 Working in partnership to deliver re-use services

4.2.1 Initial considerations

While some local authorities and HWRC operators will prefer to operate a re-use system themselves, in many cases partnership organisations are brought in to provide a re-use service. Your choice of re-use partner will have an impact on which system you adopt, which items you collect, and the necessary contractual arrangements to put in place. All of these factors will need to be considered before launching an HWRC-based re-use system.

If procurement is necessary, see WRAP’s complementary guide [How to include Re-use in HWRC procurement](#). The purpose of this guide is to inform anyone funding or running HWRCs of the procurement options and opportunities available when introducing or improving re-use services. The primary audience is local authority waste and procurement departments and waste management contractors. However, the guide will also help social enterprises, charities, and other potential partners to gain an understanding of the local authority procurement process.

A summary of the potential benefits and drawbacks of working with an external re-use organisation is provided in Table 3.

Table 3 Summary of potential benefits and drawbacks of working with an external re-use organisation

Benefits	Drawbacks
<ul style="list-style-type: none"> ■ Social enterprises and charities often have experience and established redistribution networks, retail outlets, vehicles and trained staff. ■ The involvement of charitable partners can generate good will from residents. ■ The HWRC operator will benefit from a reduced operational burden. ■ Partnerships can create social benefits from training and volunteering opportunities, as well as recycling and re-use credits for the partner organisations. ■ A financial incentive is often written into contracts for the site operator or local authority. ■ Partnership working with social enterprises and charities meets the requirements of the Social Value Act. 	<ul style="list-style-type: none"> ■ The HWRC operator will need to invest time and resources in setting up a partnership and planning operations. ■ Unless there is a profit-share arrangement with the partner, the HWRC operator will receive little or no income. ■ Partners can have little experience of working on waste sites, or with the waste management sector. ■ The partnership or service could fail if the re-use organisation experiences financial or resourcing difficulties.

4.2.2 Scoping and selecting partners

Local authorities or HWRC operators may need to persevere developing partnerships with social enterprises and charities, to help them understand how a system would work on an operational level, and any expectations of them. Initially, some [soft market testing](#) may be appropriate, such as visiting potential partners to view their operations and explain your ideas face-to-face, and then inviting interested parties to an exploratory meeting. It is important not to rush this process as building relationships with potential partners requires trust, mutual understanding and shared objectives.

It is important to recognise that social enterprises and charities will have a variety of aims and objectives, organisational structures and constitutions which will impact on their potential role as a re-use partner. For example, those focussed on the social benefits of re-use, such as selling goods to people on low incomes, might be more interested in basic furniture items, while more traditional, high street charity shops would likely be more interested in bric-a-brac and textiles.

Therefore, it could be helpful to engage with a range of potential partners. Local authorities might benefit from appointing a specialist to help with this engagement, providing a single point of contact and providing support where it is needed.

A re-use forum can be an ideal vehicle through which to engage with potential partners (refer to [How to set up and run a re-use forum](#)). However, a potential partner may also come from another stakeholder group such as a housing association. It is advisable to spread the net wide to identify all potential partners, or publish a broad call for expressions of interest. A public meeting is another way to engage with potential partners. National or local network bodies (such as FRN or the local Voluntary and Community Services) might also be able to help identify potential partners.

4.2.3 Assessing the capacity of potential partners

It is recommended that local authority officers or HWRC operators assess the capacity of potential re-use partners. Some may demonstrate impressive operational efficiency, whereas others can lack the management capacity and expertise necessary to deliver a consistent service. It is important to consider what you will need from a re-use partner, and to be flexible when thinking of solutions. For example, if the required service is to clear a container of items once or twice a week, and no single organisation in the area can commit to that, perhaps a few organisations could each take turns.

Case study: Re-use partnership with the third sector, East London

East London Waste Authority (ELWA) has a long term contract with waste management company Shanks for the operation of its four HWRCs, as well as its recycling, organic treatment and energy from waste facilities. When London Re-use Network (LRN) was set up, ELWA was keen to engage and see products from its HWRCs re-used. This new service requirement needed to be addressed through the contract agreement between ELWA and Shanks, since the original contract had no specific mention of re-use.

Shanks was initially reluctant to lose access to materials that had value, either through recycling or energy recovery. However, once the quantities of re-usable materials were assessed and estimated at a maximum of 1,000 tonnes per year across the four HWRC sites, this put the requirement into perspective, allowing the focus to shift to the environmental and social value that could be realised from a re-use scheme. As the social enterprises and charities that deal with second hand items in East London are relatively small organisations, the solution was to start with a furniture re-use charity partner for each site, followed by a bicycle re-use partner. Other charity partnerships operating today include the re-use of paint, shoes, textiles and books.

Case study: Re-use partnership with the third sector, Leeds

“The benefit of the Leeds Furniture Re-use Group working together is that we can go for opportunities that singularly we wouldn’t be able to go for on our own. Another benefit from working with Leeds City Council is that we are able to access goods that we wouldn’t be able to get hold of normally, which in turn increases our revenue throughout our shops”

Ali Ward, Chair of Leeds Furniture Re-use Group
More information is available on the [WRAP website](#).

4.2.4 Capacity and agreement to types of items accepted

Historically, some re-use organisations have underestimated the amount and types of product they are expected to handle. This has sometimes meant that they have been unable to provide the required level of service due to lack of storage, handling capacity and willingness to take different items. Consideration should be given as to the capability of an organisation to carry out repairs to items to avoid burdening them with broken items which will be costly to store and discard. Local authorities or HWRC operators should consider offering support with these decisions, including logistical and operational planning, to ensure that systems are sustainable for both parties. It is suggested that arrangements should be carefully monitored during a probationary period and that systems are reviewed until a suitably stable operational process is achieved.

4.3 Choosing which items to collect for re-use

A wide range of items may be suitable for direct re-use or preparation for re-use, as summarised in Table 4. Before considering which items to target, operators should determine the method of selling the items as some products will be more suitable for sale in different settings. If third party re-use organisations are to be involved then they should be consulted about which items they are capable of handling and which will cause them an unnecessary burden.

Table 4 Summary of common re-use categories and considerations for re-use

Category	Examples	Considerations
Soft Furnishings	Armchairs, beds, sofas, mattresses	<ul style="list-style-type: none"> ■ Second hand furniture must meet the same safety and trading standards requirements as new items. ■ Many of these items, such as mattresses, may be less desirable due to soiling. ■ Establish visual assessment criteria for the level of soiling to enable staff to segregate items. ■ "Carelessness causes fire" labels must be present on soft furnishings for them to be suitable for re-use (there are some exemptions which include furniture made before 1 January 1950). ■ The quality of furnishings may diminish if kept outside; shelter will be required to protect these.
Hard furnishings	Bookcases, cabinets, chairs, chests of drawers, cupboards, tables, TV/hi-fi units, wardrobes	<ul style="list-style-type: none"> ■ Second hand furniture must meet the same safety and trading standards requirements as new items. ■ Likely to require less preparation for re-use as soiling can be more easily removed than with soft furnishings. ■ Many of these items may be load bearing and should hence be assessed for functionality and repaired or rejected as required.
Large WEEE items	Includes cookers, washing machines, dryers, fridges and freezers	<ul style="list-style-type: none"> ■ Preparation of these items will almost certainly require the certification for safety and functionality by a qualified electrician. ■ Preparation of some items – for example washing machines – may require specific skills beyond those of an electrician. ■ See the Furniture Re-use Network's guide to preparing electrical goods for re-use. ■ Refurbishment should be to PAS 141 standards or equivalent. ■ Further advice is available in the re-use protocol for electrical products and in WRAP's HWRC guide. ■ The presence of segregated WEEE items for re-use may increase the incidents of theft; security is therefore an important consideration. ■ Computers may require the erasing of existing data/software, and the installation of new software.
Small WEEE	Includes TVs, DVD players, radios, toasters, kettles and	<ul style="list-style-type: none"> ■ Many small WEEE items can be tested simply with a PAT testing machine and by checking basic functions (light, heat, vision and sound), and can therefore be processed on site without need for further testing equipment or personnel (personnel do need to be

Category	Examples	Considerations
	hairdryers	<p>qualified in PAT testing.)</p> <ul style="list-style-type: none"> ■ Due to the low tonnages of small WEEE, many producer compliance schemes (PCs) have been happy to discount these items and do not require the testing or preparation to take place at an authorised treatment facility (ATF). ■ Records of testing and repairs should be kept for all items, with refurbishment performed to PAS 141 standards or equivalent.
Other items	Textiles, fixtures and fittings, garden furniture, leisure equipment, tools and machinery, bric-a-brac, paint, bicycles, construction products	<ul style="list-style-type: none"> ■ Textile re-use on HWRCs can be run in conjunction with textile recycling (for further information see WRAP textiles collection guidance). ■ Items such as fixtures and fittings often require careful oversight to ensure items stored do not degenerate into piles of rubbish; the main items that can be easily included at HWRC re-use outlets are doors and carpets/rugs. ■ Garden furniture and equipment, and leisure equipment, such as skis, are also potentially re-usable and in demand; check with Trading Standards about exclusions and safety checks that need to be carried out. ■ Used toys must comply with the Toys (Safety) Regulations 2011 before they can be sold or donated for re-use. ■ Liquid paint should not be disposed of in landfill; a local Community Repaint Network member may be able to take water-based and some oil based paints. A fire-cage or a bunded container will be required to store the products safely. For more information, refer to WRAP's HWRC guide and the Community RePaint website. ■ Construction products are a major potential source (by weight) for re-use items; however they can contaminate other items and take up large amounts of space. If there is a local wood recycling project, it may be interested in taking and sorting any suitable wood at its site. ■ Used gas cookers must comply with the Gas Cooking Appliances (Safety) Regulations 1989. ■ Bicycles are predominately metal and therefore may provide a source of recycling income, which can prevent them from being allocated to re-use. However, as they are comparatively lightweight and only a proportion would be recyclable, their re-use value remains much higher than that generated through recycling.

4.4 Off-site partners

In some areas there are social enterprises providing re-use activities and social benefits, for example [Bicester Green](#). A re-use hub such as Bicester Green can provide valuable vocational training opportunities for unskilled workers in preparation activities such as electrical testing, washing machine repair, bicycle building, furniture upholstery. Another function for re-use hubs can be the provision of adult education services using waste materials such as woodwork, metalwork, textiles and art workshops, which could potentially make use of almost any item found in a HWRC.

This approach lends itself to partnership working, with local organisations managing operations. In West London, for example, an increasing number of HWRCs are sending re-use products to the new [West London Re-use Centre](#).

Whether there is a shop onsite at an HWRC or not, areas that have a re-use organisation such as this are encouraged to partner to encourage the public to re-use and raise awareness of the opportunities within the social enterprise.

4.5 Developing contracts for re-use

More detailed consideration is given to procurement of re-use activities at HWRCs in the Procurement How to Guide. However the sections below summarise some key elements of the procurement process.

Drawing up agreements

Agreements should be made as to the type, quantity and quality of items chosen for segregation and how and when they will be moved on (either sold on site or taken off site). If a partner is involved, it is recommended that they provide training to ensure that site staff segregate desirable items and inspire the public to participate in re-use.

Agreements should be commensurate to the scale and risk of the re-use activity. Often, re-use container clearance arrangements are set up through an exchange of emails or a one to two- page service level agreement (SLA) setting out the basic requirements for each party. It can be important to have something in writing in case of even minor disputes. Re-use outlets and hubs on HWRCs will need more extensive agreements as formal contracts.

All parties involved will have invested time and resources into the initiative, so the timing of opt out clauses is important to establish whether the scheme works. However, it is a delicate balance: if the activity is not working it needs to be revised or stopped relatively quickly to limit any negative impact on site users. Therefore frequent reviews are recommended during the first six months of operation.

If there is a contract in place with an external waste management company, it may contain clauses and performance targets for re-use. Site performance is almost always measured as a recycling rate, and since 2007, re-use tonnages can be counted towards recycling rates. Where the contractor has made significant strides towards a high recycling rate, increasing performance can be motivated by a bonus payment for every extra tonne recycled or re-used.

Where a new contract is being set up, this is the ideal opportunity to specify a re-use activity, in partnership with a third party if desired. Historically, many contracts have included clauses for re-use but omitted performance targets so, despite good intentions, re-use has failed to be prioritised and actioned. Therefore, it is important to align re-use activity with strategic priorities and existing targets, or to add in targets that ensure re-use is carried out. These can be included under contract sections on recycling, education or community involvement. For example, if there is an environmental education centre on one site, this could have space for a re-use workshop or shop to demonstrate re-use in action.

Local authorities can require their main contractor to release a given percentage of the contract sum to subcontractors, and to package it in such a way that small businesses, social enterprises and charities can compete for it.

It can be useful to make specific efforts or engage a third party to facilitate this process, particularly as there can sometimes be a wide gulf between re-use organisations and waste management companies. For more information, refer to [How to develop a re-use strategy](#).

Case study: re-use and HWRC contract management in Buckinghamshire

Buckinghamshire County Council (BCC) was letting a new seven-year HWRC management contract from April 2012, and had included incentives to increase re-use at its sites, encouraging partnership working with local re-use organisations. Bidders had tried to engage

with local social enterprises and charities, but with no re-use forum in place, the re-use organisations being relatively small, and tight timescales for engagement, this had proved fruitless.

However BCC tried again, recognising the window for opportunity could pass. Once a preferred bidder was chosen and the main contract activities were on course, WRAP was asked for support. Interested third sector partners were scoped and brought together with the preferred bidder. With the contract start date looming, a series of meetings was held, and assistance was given to develop a credible business case that benefited all parties. This proved successful and the first HWRC shop was opened on the Ashton Clinton site in July 2012, run by a local hospice; the second was opened on the High Wycombe site in 2013. In addition, re-usable items are collected from the other eight Buckinghamshire HWRCs and sold at these two shops. The hospice has a network of five high street charity shops, some of which accept furniture, through which it can redistribute excess items.



For more information refer to [Bucks local partnership re-use case study](#).

5.0 Operating a re-use system

This section explores some of the financial, practical and administrative considerations when setting up an HWRC re-use scheme.

5.1 Financial considerations

It is important to have a clear business case for a re-use scheme, identifying the potential costs and benefits that will arise when setting the scheme up and running it.

Table 5 Common costs and savings associated with re-use services

CAPEX Capital Expenditure	OPEX Operational Expenditure	Income/saving
<ul style="list-style-type: none"> ■ storage containers ■ hard-standing ■ parking bays ■ barriers and cones ■ training for site staff ■ signage ■ marketing and communications: website, leaflet campaign, engagement with site-users ■ tools for refurbishment ■ lighting for security and to illuminate preparation activities and ■ CCTV 	<ul style="list-style-type: none"> ■ staff wages ■ land lease ■ vehicle running costs ■ tools/consumables for refurbishment and ■ electricity costs associated with storage, sales and preparation areas 	<ul style="list-style-type: none"> ■ reduction in waste disposal costs resulting from diverted re-use items ■ reduction in waste disposal costs resulting from increased recycling ■ income from sale of re-use items ■ license fee and ■ income for social enterprises and charities through re-use credits (if provided).

5.2 Practical considerations

Protecting re-use items from the elements

Items stored outdoors are more susceptible to weather damage, which may reduce their suitability for re-use. Therefore, operators should consider providing as much undercover space as feasible to protect these items. Staff members undertaking preparation activities will require protection from the elements to protect their welfare, morale and safety, while customers are also more likely to view and buy products if they are provided with a comfortable environment in which to browse.

One of the most common solutions is to provide a lockable shipping container which will keep goods dry and provide a high level of security; these can be furnished with lights and shelves. Other approaches include the construction of purpose-built sheds or open-sided shelters.

Preventing the build-up of items

Unsold items will accumulate over time and need to be diverted to another re-use organisation, sold or exchanged through an alternative channel, or be sent for recycling or disposal. In many cases items can be recycled whole or they may need to be disassembled for maximum recycling.

Items can be labelled with a shelf-life to control the build-up of potentially unwanted goods.

Security

HWRCs with re-use schemes can make the site more susceptible to break-ins, as potentially valuable items are concentrated in a particular area; in many cases, the value of sites have increased as a consequence of preparation activities.

It is therefore advisable to store items for re-use in lockable containers. This can have a positive impact on overall site safety, as people are less likely to scavenge in skips if the potentially valuable items have already been removed. Many vulnerable sites already include measures such as CCTV, fencing or even a security guard to provide a 24-hour site presence.

End of waste

Having been “discarded” by their “holder”, all items deposited at an HWRC are considered to be waste according to Article 3 of the Waste Framework Directive. However, if containers are provided for re-use and guidance (signage) provided, it is possible to change the presumption (intention) to discard to an intention to re-use. This decision could be made by the householder or site staff, in particular if site staff have spoken to the resident to identify if the item is in working order and has undertaken a visual inspection of the item. The status can also change as soon as the item has been prepared for re-use. Preparing items for re-use may only involve a simple visual inspection before it is segregated. At this point, so long as it is deemed suitable, it has ceased to be waste and waste legislation will no longer apply.

For example, in the case of a wooden chair which has been discarded at an HWRC, a site operative may carry out a few simple physical checks by attempting to flex the joints or sit on it. Once they are satisfied that the chair will not break and that it is not excessively soiled, then they may be able to declare it ready for re-use and the chair will no longer be classified as waste.

Further guidance is available from the Environment Agency in their [briefing note](#). It clarifies when the when waste rules do and don't apply. *“If a material hasn't been discarded it isn't waste and waste rules do not apply. For example, an item that is re-used again for the same purpose as was originally intended”*. If you are in any doubt you should contact the environmental regulator for your area to ask for an opinion on whether your material is waste or not.

Trade waste

Many local authorities/HWRC operators ban traders from entering their site; however, as with any other trade waste facility, some allow access in exchange for payment. Although a material or product may be worth little to a building contractor, it may be considered valuable by householders who would otherwise have to purchase it new. Examples include bricks, roof tiles, timber, radiators and plasterboard. Traders could be incentivised to deposit items for re-use by offering a “no-cost” option, although this system will require careful policing. It may also be advisable to locate these re-use areas separately to prevent the illegal deposit of trade waste in public areas.

5.3 Administrative considerations

Staff involvement and training

Introducing a re-use system can increase the range of roles and responsibilities on a site which, in turn, can increase staff motivation towards resource recovery. Encouraging staff to take ownership over a proposed change can incentivise workers towards providing a well-run operation. This may be particularly important where staff have previously (often through unofficial activities) benefited from diverting some items for re-use. In some cases it may be

beneficial to offer staff financial incentives, encouraging them to properly support the re-use scheme and to discourage attempts to cherry-pick items for personal gain.

Appropriate training and support should be provided for HWRC employees, enabling them to communicate the benefits of the re-use scheme to site users. Partner organisations could consider providing a manager during the initial implementation phase to help staff identify re-usable items and ensure that selected items are of suitable quality.

Promotion and awareness raising

To encourage participation in re-use systems, users of HWRC sites need to be made aware of the scheme. Information should be provided on how the system will operate; the required state of repair for donated items; and the benefits to charitable organisations.

Much of this information can be communicated through the local authority website and other media activity locally. Partners should also be encouraged to promote the scheme through their own websites, though some may require marketing and communications support.

Clear signage at the site entrance and unloading area can be used to direct people to the re-use area and explain the quality requirements. Additional displays could communicate the objectives and benefits of the system to gain buy-in from the public.

During early implementation, operators may consider deploying additional staff members to engage with the public on site (meet and greet), and actively encourage diversion of suitable items to the re-use area. Press releases and articles in local papers/publications can also be used to promote seasonal events or national awareness campaigns.

A good way to save money and effort is to prevent potentially re-usable products reaching the HWRC by encouraging residents to divert re-use items directly to third parties and charities. Information about suitable local organisations can be provided in leaflets and on the council website. Additional information can be found in the WRAP guides on [How to communicate re-use and how to write a communication plan to boost re-use](#).

Trading Standards

A common barrier to local authorities' implementing re-use schemes is the concern that the sale of items may contravene Trading Standards regulations. Whilst it is true to say that second hand goods are subject to the same consumer regulations as new items, the re-use industry is well established and many HWRCs with re-use services are regularly inspected by Trading Standards officers without significant problems (see National Assessment of Civic Amenity Sites, Network Recycling, 2004). For example, some goods may be sold for re-use which are in some way faulty. It may be permissible to pass on these products as long as the fault is communicated to the customer before the goods are exchanged ("sold as seen").

Operators should contact their local [Trading Standards branch](#) to ensure that their scheme complies with all the relevant regulations regarding refurbishment, re-sale and repair of goods, particularly with reference to electrical items and toys.

Cash handling

On HWRC sites where products are sold directly for cash, transactions are normally handled by the site manager or a single designated and trusted operative. Cash sales should be recorded on site in accordance with HMRC rules, which require a record to be kept of each individual sale. These systems are open to abuse by site staff and so need to be managed with care and attention.

Cash should not be stored on site overnight and although sites that handle cash have not reported increased security issues, money should be stored discretely during opening hours.

6.0 Measuring the impact of re-use

It is important to monitor and measure the impact of a re-use scheme for a number of reasons:

- it allows partners to demonstrate the value of their activities;
- it allows an accurate assessment of the waste diverted from disposal (for example, for WasteDataFlow); and
- it allows benchmarking and continual improvement of the scheme.

Table 6 Measurable re-use criteria

Type of measurement	Comments
Weight of items re-used	Measuring the weight of re-used items will help to quantify the proportion of material which has been diverted from disposal, enabling the operator to report this to the local authority, to the public, and also to managers with responsibility for budgets. The most accurate method of measurement is to weigh items on a weighbridge before they are transferred for re-use. Where a weighbridge is not available, weights can be estimated as described using average weights from FRN Product Weight Protocol . Average weights of some smaller items are available from WRAP.
Financial	The ongoing business case must be continually assessed to determine the cost-effectiveness of re-use interventions. It is equally important to monitor the costs of the scheme as it is to calculate the cost savings from diverted materials, increased recycling and through the sale of re-use items.
Knock-on effects	As discussed in section 2.12, there is evidence that the presence of a re-use system can, in some cases, increase the amount of materials separated on site for recycling. It is therefore important to measure this for each individual HWRC to gauge the effectiveness of interventions. Bear in mind that establishing cause and effect will be hard to assess unless all other aspects remain the same.
Social benefits	Quantifying the social benefits of a re-use scheme can be important to reinforce the case for its continuation; however these benefits are sometimes difficult to quantify. The Social Value Act 2013 requires local authorities to obtain social value through their procurement services. One tangible indicator could be to record the weight of items which have been provided to people on low incomes, or those which have been donated to other charities. These figures can be reported through public information display boards or through the local authority website. Another positive impact of re-use schemes is the provision of jobs, training and volunteer opportunities to disadvantaged groups such as the long-term unemployed, ex-offenders or people with disabilities. These can be quantified and reported as days worked or through individual case studies which highlight the opportunities or career progressions which the scheme enabled.

7.0 Summary

This guide provides advice on the considerations and practicalities of setting up an HWRC re-use scheme. The following points should all be considered prior to amending or introducing a re-use scheme.

- Identify drivers for implementing re-use.
 - Local benefits.
 - Regulatory drivers and definitions.
 - Improving site performance.
- Options appraisal.
 - Select re-use operating system.
 - Identify partners to work with.
 - Identify re-use items to be targeted.
 - Develop contractual agreements.
- Operating re-use systems.
 - Financial considerations.
 - Practical considerations.
 - Administrative considerations.
- Measuring success.
 - Weight-based assessments.
 - Value of goods sold.
 - Social benefits.

Once you implement a re-use system you will be joining hundreds of other organisations in the UK that are benefiting both their operations and the local community by operating a successful HWRC re-use service.

<http://www.wrap.org.uk/content/how-guides-0>
