Report

November 2014

Scoping repair training for the re-use sector
Final report

ZERO WASTE SCOTLAND

RICARDO-AEA

Inspiring change for Scotland's resource economy

Our Mission
We help reduce waste, increasing energy efficiency and promote responsible water use – all as part of a journey towards a low-carbon, sustainable economy.

Find out more at **zerowastescotland.org.uk**

Executive summary

Ricardo-AEA has been commissioned by Zero Waste Scotland to identify the nature and scope of training required to support third sector organisations in preparing more items for re-use through repair. This report presents a summary of the work carried out for this project. It makes a number of recommendations for Zero Waste Scotland which will help to guide support towards those areas which are likely to have the greatest benefits.

A structured review of existing repair training provision was carried out and a searchable database was compiled of all repair training identified. The repair training needs of re-use organisations in Scotland were then assessed through a web-based survey which received 46 responses.

Using the results of the review and survey, a mapping exercise based on a gap analysis was undertaken to identify the repair training topics which are in high demand and where training opportunities exist:

- Courses in PAT and bicycle repair are widely available in Scotland and are in high demand. It should be noted that the bicycle repair courses identified are not accredited.
- Courses (including accredited courses) in furniture repair (woodwork, joints, fixings); and textiles repair (sewing skills) are in high-demand. They are available in Scotland, although not widely, and the north of England.
- Courses (including accredited courses) in: furniture repair (painting and finishing; and cleaning); electronic equipment repair (small EEE fault diagnosis and repair; and large EEE fault diagnosis and repair); and textile repair (repair skills excluding sewing; and cleaning and stain removal) are in high demand. They have limited availability in Scotland and the north of England.
- Courses (including accredited courses) in: furniture repair (metal furniture; and upholstery (from scratch)); and electronic equipment repair (other electrical repairs and re-wiring) are in medium-demand. They have limited availability Scotland and in the north of England.

Tables 9 - 12 in Appendix 4 indicate that lack of training availability may be hampering re-use efforts. These tables show the % of respondents currently carrying out different repair activities and the % of respondents that would undertake different types of repair in the future if training was available. Where the % of "in future" responses is high, it may be concluded that a lack of training is at least partially responsible for the lack of repair activities in relation to these products and that increased training provision or support to attend training, is required in order to drive increased repair activities. This is particularly significant for those product streams which have the largest tonnage potentially available for re-use as identified in Zero Waste Scotland's report on re-use sector mapping and analysis.

The research also revealed that demand for training exceeds provision for most activities undertaken by third sector re-use organisations. Appetite for training appears to outstrip provision most significantly for quality assurance and health and safety checks for furniture, WEEE and textiles and cleaning of white goods.

The benefits of additional training cannot be quantified as a result of this research but the recommendations have been ordered to focus on those opportunities which are most likely to result in immediate or short term benefits, training courses in closest proximity and on those topics where there is the greatest potential for increases in tonnage (by using the re-use sector mapping study to identify those materials with the largest potentially re-usable tonnage and the key material streams identified by Zero Waste Scotland - high volume products with a short-medium shelf-life such as EEE (small household goods and large white goods), furniture, textiles and other items such as bicycles).

Recommendation summary:

Maximising benefits from existing training

- Explore whether there are other reasons, in addition to cost and time, behind low uptake of existing opportunities, to identify and address any additional barriers.
- Where applicable provide support for organisations to attend training courses on the following topics[1]:
    - Furniture repair: Woodwork, joints, fixings.
    - Textiles repair: Sewing skills.
    - Furniture repair: painting and finishing; and cleaning.
    - Electronic equipment repair: fault diagnosis and repair - large EEE and small EEE.
    - Textile repair: repair skills excluding sewing; and cleaning and stain removal.
    - Furniture repair: metal furniture; upholstery (from scratch).
    - Electronic equipment repair: other electrical repairs and re-wiring.
- Provide support for organisations to undertake PAT training.

Opportunities to expand existing training

- Undertake research to identify details of courses currently in existence which include modules on relevant topics which are not currently available as standalone modules.
- Engage with providers on a one-on-one context to explore the opportunities and costs involved to make relevant modules "standalone" opportunities, either to re-use organisations or on a wider basis.
- Engage with training providers to determine the viability and costs involved in order to deliver courses in Scotland or in specific Scottish regions, where these opportunities are not currently available.

New training development

- Work with course providers to determine the feasibility of developing new courses and, if deemed feasible, to develop course content, and agree appropriate course lengths, structures and delivery methods for high priority topics
- Work with course providers to determine the feasibility of developing new courses and, if deemed feasible, to develop course content, and agree appropriate course lengths, structures and delivery methods for medium priority topics.

By implementing these recommendations, Zero Waste Scotland can support re-use organisations in Scotland to increase the quality and quantity of items they repair, to divert more re-usable material away from recycling, landfill or incineration, and stimulate demand for re-used goods.

---

[1] Note that the availability of courses varies across regions (further details are provided in section 2) and the order of the recommendations takes account of this.

1 Introduction

Ricardo-AEA has been commissioned by Zero Waste Scotland to identify the nature and scope of training required to support third sector organisations[2] in preparing more items for re-use through repair.

The primary objectives of this work were:

- To research repair training across the UK, relevant to the needs of the Scottish preparation for re-use market, to increase the skills in the workforce and facilitate re-use of damaged but repairable products.
- Through analysis of gaps in skills and training provision, to recommend a range of options for Zero Waste Scotland to support re-use organisations to access suitable and meaningful training, thereby increasing their skills base and ability to repair goods for re-use

This report presents a summary of the work carried out for this project and makes a number of recommendations for Zero Waste Scotland. The recommendations have been ordered as follows, to focus on those opportunities which are most likely to result in immediate or short term benefits:

- Maximising benefits from existing training.
- Opportunities to expand existing training.
- New training development.

Within each of these areas, recommendations have been further prioritised to focus on the key product streams identified by Zero Waste Scotland. These products were identified as high volume with a short-medium shelf-life which are currently regarded as disposable and not economically viable for repair through conventional service due to quality or consumer perception. Examples include EEE (small household goods and large white goods), furniture, textiles and other items such as bicycles. Training in these areas is considered to have the greatest potential impact in terms of increasing the quantity and quality of goods entering and circulating within the preparation for re-use market.

The methodology used to produce these recommendations is outlined below:

Step 1) Structured review of existing repair training provision:
- Focussed primarily on training courses located in Scotland and the North of England to reflect the accessibility to Scottish re-use organisations. A searchable Excel database was compiled of all repair training identified through this review (see Appendix 2).

Step 2) Assessment of the repair training needs of third sector re-use organisations in Scotland:
- Information was gathered through a web-based survey (see Appendix 4) which organisations were given 14 days to complete, with follow up phone calls to maximise the number of responses.

Step 3) Mapping the available training courses to training needs:
- This assessment was conducted through a gap analysis and identified the opportunities in three key areas: existing training which could be supported, existing training that could be expanded, and areas requiring new training development. The impacts of training (in terms of potential impact on business capacity) were based on the level of demand identified through the survey and the potentially re-usable tonnage of different products (using the existing evidence from the Zero waste Scotland re-use sector mapping and analysis report). High demand and high tonnage potentially available equates to the highest potential impact.

Step 4) Assessing priority areas for new training:

---

[2] Only Scottish third sector re-use organisations were included within the scope of this research and therefore public sector, public sector arms-length and private re-use organisations were not covered by the project and were not included in the evidence gathering.

- Priority areas for development of new repair training provision were identified. This was based on an assessment of the potential impacts of new training provision (in terms of the potential increase in tonnage diverted to re-use from the quantity circulating within the waste stream and within re-use organisations[3]) and the ease/difficulty with which new training could be provided/developed.

2 Summary of research findings

2.1 Summary of repair training providers and courses

A table summarising existing repair training courses available in Scotland and Northern England is provided below and is expanded in Appendix 1. This table identifies: subject area (expanded into sub-categories in the appendix), location, number of accredited courses, and number of non-accredited courses.

Training was considered to be "accredited" if it could result in a qualification assessed by an Ofqual[4] accredited awarding body.

In addition, the full training database, (See Appendix 2) includes information on course length, delivery method, cost, content summary, learning outcomes, awarding body, format, credits providers and contact details.

Further details on additional issues uncovered and the scope of the research into training provision are provided in Appendix 8.

---

[3] As identified in the Zero Waste Scotland re-use sector mapping and analysis report.
[4] The Office of Qualifications and Examinations Regulation (Ofqual) maintains a Register of Regulated Qualifications which provides details of recognised awarding organisations and regulated qualifications in England, Wales, and Northern Ireland. The Scottish Qualifications Authority (SQA) is included within the Ofqual register, and details of recognised awards and awarding bodies contained on the SQA website were also reviewed and considered accredited in this study.

	Central Scotland		North East Scotland		Highlands & Islands		North West/East England		North West England		Nationwide	
	Accredited	Not Accredited	Accredited	Not Accredited	Accredited	Not Accredited	Accredited	Not Accredited	Accredited	Not Accredited	Accredited	Not Accredited
Furniture Repair	2	17	1	0	0	0	11	1	6	0	2	0
WEEE Repair (inc. PAT)	5	4	1	0	1	0	0	0	0	1	4	0
Textiles Repair	1	5	0	0	0	0	4	0	0	0	1	0
Bicycle repair	0	14	0	0	0	8	0	0	0	5	0	1
Other Repair Types	0	1	0	0	0	0	0	0	2	0	0	0

Table 1. Overview of existing training courses in key topic areas in Scotland and Northern England

Overall, the research revealed that the provision of training varies significantly across the different repair skills that third sector re-use organisations are likely to need, now or in future. The key findings of the research into current provision of repair training are outlined below and points of interest have been included in Appendix 8.

2.1.1 *Key Findings:*

- Training in PAT, welding (for metal furniture repair), sewing, upholstery, bicycle mechanics and woodwork or joinery (for wooden furniture repair) is widely available in both accredited and non-accredited forms.
- Training in domestic appliance, brown goods[5] or small electronic and electrical equipment repair, and specific cleaning, restoration or repair of furniture and textiles is not widely available. The few training courses that were identified in electrical or electronic equipment repair are mostly non-accredited.
- There is a large variation in the level of skills transferred and attendance requirements across the courses. This appears to reflect the possible reasons for candidates wanting to receive the training – e.g. recreational/hobbyist versus professional or career orientated reasons.
    - o Training for PAT, bicycle maintenance and domestic appliance repair are delivered in a variety of ways, including a one day introductory course through to a 10 day intensive course. The courses are run both on- and off-site are often aimed at people who are looking to upskill for professional, rather than personal, reasons. The training is therefore in-depth and delivered in such a way as to provide the skills required within working hours but with only short-term disruption to the organisation.
    - o Training in woodwork, sewing and welding skills tend to be delivered via 1-3 hour evening classes over longer periods of time and this reflects the fact that a significant proportion of these courses appeared to be aimed at people who are looking to upskill for personal reasons, rather than professional. People in this category will not necessarily be looking for a depth of skill that would be applicable in a work environment and they will be looking to receive this training outside of working hours.

    Shorter, more in-depth courses may be more suitable for third sector organisations, since it there will be limited disruption to the organisation and staff will not be expected to attend training outside of their normal working hours. However, there are limited existing training opportunities for many topic areas and where there are only longer term, less in-depth courses available, this training is still likely to be valuable to increase skills and increase re-use.

- The vast majority of relevant training was found to be delivered in-person, to groups and on specific dates. Although in the minority, the research did identify instances of training through online or distance learning methods e.g. e-learning or using provided course materials at home.
- There is a wealth of 'fix it yourself' resources online consisting primarily of non-accredited repair manuals, guidance, tips and videos targeting specific skills that are relevant to repair, for example www.ifixit.org

2.2 Summary of repair training needs of re-use sector

The full results of the repair training needs survey and summary tables presenting an overview of the quantitative findings are available in Appendix 4. The summary tables demonstrate the range of different organisations that responded, types of products handled, tonnage of products handled and types of repair activities carried out.

The results of the training needs survey indicate that:

- Demand for repair training is high across most re-usable item categories, primarily furniture (e.g. joinery, upholstery, painting/upcycling and cleaning), EEE (e.g. electrical and mechanical repair, fridge re- and de-gassing and PAT), textiles (e.g. cleaning and mending) and bicycles.
- Accreditation for repair activities is seen as vital to providing quality assurance to customers and therefore to stimulate demand for repaired products.

---

[5] TVs, microwaves, etc.

- 80% of respondents offer their staff or volunteers training. The most commonly occurring courses were those for PAT, H&S, manual handling, warehousing, stock management and administration skills. Bicycle repair courses tended to be the most frequently mentioned repair training.
- 20% of respondents stated that the training currently offered/supported leads to a qualification.
- 41% of respondents provide staff with both time off and financial support to attend training, 2% provide financial support only and 15% provide time off only. This suggests that cost is more of a barrier than time for re-use organisations in training their staff, although time also appears to be a limiting factor for organisations with fewer full-time staff.
- 72% of respondents stated that they would provide time off or financial support for training, in the future. The remainder did not respond to the question.
- On-site delivery to a group of staff was noted as a preferable format for training.

Tables 9 - 12 in Appendix 4 indicate that lack of training availability may be hampering re-use efforts. These tables show the % of respondents currently carrying out different repair activities and the % of respondents that would undertake different types of repair in the future if training was available. Where the % of "in future" responses is high, it may be concluded that a lack of training is at least partially responsible for the lack of repair activities in relation to these products and that increased training provision or support to attend training, is required in order to drive increased repair activities. This is particularly significant for those product streams which have the largest tonnage potentially available for re-use as identified in Zero Waste Scotland's report on re-use sector mapping and analysis.

Some examples of the needs and views of individual re-use organisations, as gathered through the survey, are highlighted below:

- "Currently looking at upcycling and hoping to have a creative intern in place for 13 weeks to help set up processes".
- Between a number of existing courses outside of Scotland, "it is possible to cobble together a modular approach to [domestic appliance] repair training."
- "We do all of the listed repairs (furniture, WEEE, textiles, bicycles)…but not as part of a training programme, which is what we would like to do."
- "We only have one joiner but there is a demand for more joinery repair skills."
- "We do clothing repairs already, but to develop our ability to complete this to a higher standard…textile cleaning and stain removal would be a very useful course."
- "Interested in [training for repair of] prams."
- "A contractor does our PAT but he is very hard to get hold of and expensive! Anything that needs repair is dumped as we don't have the time or space."

Organisations also commented that, in addition to training, grants for provision of repair equipment (for example, sewing machines, tools, spray painting booths) would increase their capacity for repair.

2.3 Summary of analysis mapping available training courses to training needs

In this step, a gap analysis was undertaken. The gap analysis was based on two main factors: the availability of training courses (scored 0 – 3) and the need/appetite for training (scored 1 – 3). Used in conjunction, these variables identify clearly and simply where training exists which could be used to meet current demand, and where there are gaps in training provision. Further details regarding the methodology are presented in section 4.

The full gap analysis is attached in Appendix 5 however key findings are presented here. The gap analysis results form the basis for recommendations to Zero Waste Scotland.

Course topic	Demand for Topic Area	Availability	Accreditation
PAT	High	Widely available in Scotland	Available
Bicycle Repair at basic, intermediate and advanced levels	High	Widely available in Scotland	Not accredited
Furniture repair: woodwork, joints & fixings	High	Available in Scotland and Northern England	Available
Textile Repairs: Sewing skills	High	Available in Scotland and Northern England	Available
Furniture Repair: painting, finishing & cleaning	High	Limited Availability across Scotland and Northern England	Available
EEE Repair: fault diagnosis in both small and large EEE	High	Limited Availability across Scotland and Northern England	Available
Textile Repair: cleaning and stain removal, skills other than sewing	High	Limited Availability across Scotland and Northern England	Available
Furniture repair: metal furniture; and upholstery (from scratch)	Medium	Limited Availability across Scotland and Northern England	Available
Electronic equipment repair: other electrical repairs and re-wiring	Medium	Limited Availability across Scotland and Northern England	Available

Table 2: Key Findings of Gap Analysis

The gap analysis indicated that appetite for training exceeds provision for most broad repair skills groups (furniture, upholstery, small and large EEE, textiles, toy and musical instrument repair). Appetite for training appears to outstrip provision (particularly of accredited courses) most significantly for quality assurance and health & safety checks for furniture, WEEE, textiles, and cleaning of white goods.

Tables 9 - 12 in Appendix 4 show that third sector re-use organisations are interested in undertaking further re-use activities if support for training is provided. Provision of support is therefore likely to result in increased re-use of products already collected and an expansion of the range of products collected. Although the impact on tonnage has not been quantified through this research, the recommendations have been ordered to take into account both demand (as determined through the survey) and tonnage of different products potentially available for re-use (as determined in the Zero Waste Scotland re-use sector mapping and analysis report, and priority products identified by Zero Waste Scotland) to focus on those topics with the highest potential impact.

3 Prioritised recommendations

As detailed in the introduction, the recommendations have been split into three sections in order to separate and prioritise those areas where results could be seen immediately or in the short term.

3.1 Maximising opportunities through existing training

It is clear from the gap analysis conducted as part of the mapping exercise, that there are many areas where training opportunities exist and these could be used more effectively or supported further to meet current training requirements of organisations.

3.1.1 Reasons for low-levels of uptake

As noted in the summary above, the training needs survey found that 80% of third sector re-use organisations do currently train their staff and the most commonly occurring courses were those for PAT, health & safety, manual handling, warehousing, stock management, and administration skills. In the context of this report, it is interesting to note that very few organisations reported that they had sent staff on specific repair training courses, bike repair courses aside, despite the availability of some courses in Scotland. Instead, if repairs are carried out, many organisations reported that they already have a team member with the appropriate skills (perhaps gained through previous employment or interests) or, that they rely on an external skills base.

The reasons for low use of existing repair training courses were not covered by the scope of this study and therefore it is recommended that Zero Waste Scotland engages with Scottish third sector re-use organisations to identify and address any barriers that may exist, prior to any provision of funding.

Further information on the methodology applied during the analysis is available in section4.0

3.1.2 Courses provided in Scotland – high demand topics

The analysis identified four areas where both demand and provision are high: PAT and basic, intermediate and advanced bicycle repair. Despite the level of interest in PAT courses and the wide availability of training, the cost of training in order to obtain the necessary qualification may be a barrier to uptake by re-use organisations which instead, often reply on external contractors to carry out the necessary testing. With regard to bicycle repair, it should be noted that while provision of courses is high, these are non-accredited.

The topics where breadth of provision was considered level 2 (available but not Scotland-wide) were:

- Furniture repair: woodwork, joints, fixings
- Textiles repair: sewing skills

In the analysis of the survey results, both of these were identified as being in high demand with re-use organisations and they also match to two of the key product streams. It is therefore recommended that support be provided to maximise uptake of these existing training opportunities.

The existing training opportunities in both of these topics include accredited and non-accredited courses (as detailed in Appendix 1) and it is recommended that support be prioritised to fund attendance at accredited courses in the first instance.

In order to access this training, third sector re-use organisations may require financial support in terms of travel and possible accommodation costs as well as with the cost of attendance. Indicative costs for attendance and travel to accredited training courses are provided in the table below:

Training subject	Indicative attendance cost per person	Indicative travel cost per person	Total indicative training cost per person
Furniture repair - Woodwork, joints, fixings	£168 - £369[6]	£0 - £693[7]	£369 - £861
Textile repair - Sewing skills	£300	£162[8]	£462

Table 3: Indicative costs for financial support

3.1.3 *Courses with limited provision in Scotland and Northern England – high and medium demand topics*

The areas where breadth of provision was considered low (little provision in Scotland/North of England) and which were identified as having a high or medium level demand, were:

- Furniture repair
    - Metal furniture   medium demand
    - Painting and finishing   high demand
    - Upholstery (from scratch)   medium demand
    - Cleaning   high demand
- Electronic equipment repair
    - Small EEE fault diagnosis and repair   high demand
    - Large EEE fault diagnosis and repair   high demand
    - Other electrical repairs and re-wiring   medium demand
- Textile repair
    - Repair skills excluding sewing   high demand
    - Cleaning and stain removal   high demand

The existing training opportunities in these topics include both accredited and non-accredited courses (as detailed in Appendix 1) except for "other electrical repairs" and "textile repairs skills exc. sewing". It is recommended that support be prioritised to fund attendance at accredited courses in the first instance wherever available.

In order to access this training, particularly where courses are not available in Scotland, third sector re-use organisations may require financial support in terms of travel as well as with the cost of attendance. Indicative costs for attendance and travel to accredited training courses are provided in the table below:

---

[6] One distance learning course was found with a cost of £369. This course would have no travel costs.
[7] Based on Stirling – Glasgow peak return over 11 weeks. The £0 cost represents the one distance learning course identified.
[8] Based on Stirling – Glasgow off-peak return over 20 days.

Training subject	Indicative attendance cost per person	Indicative travel cost per person	Indicative accommodation cost per person[9]	Total indicative training cost per person
Furniture repair				
Metal furniture	£95 - £200	£132[10]	£0	£227 - £332
Painting and finishing	£168 - £280[11]	£88[12]	£600	£856 - £968
Upholstery (from scratch)	£336 - £560[13]	£176[14]	£1,200	£1,612 - £1,936
Cleaning	No information	£0[15]	£0	No information
Electronic equipment repair				
Small EEE fault diagnosis and repair	£300	£44[16]	£200	£544
Large EEE fault diagnosis and repair	No information	£0[15]	£0	No information
Other electrical repairs and re-wiring	£300	£44[16]	£200	£544
Textile repair				
Repair skills excluding sewing	No accredited courses available			
Cleaning and stain removal	No information	£0[15]	£0	No information

Table 4: Indicative costs for financial support

It is recommended that Zero Waste Scotland prioritise support for those topics in high demand since they link to the priority material streams identified and, due to the level of interest, are likely to lead to the greatest improvements in tonnage and quality levels.

---

[9] Assumed £100 per person per night

[10] Based on Stirling to Motherwell peak return for 8 days (60 hours typical learning time) booked one month in advance

[11] No information on attendance cost was available so information for joinery courses of the same length have been used here

[12] Based on Glasgow to Manchester cheapest return, returning twice over 8 days (60 hours typical learning time) booked one month in advance

[13] No costs found so cost based on per hour rate for joinery courses (over 120 typical learning hours)

[14] Based on Glasgow to Manchester cheapest return, returning 4 times over 16 days and booked one month in advance

[15] The only identified course was on-demand and can be delivered on-site

[16] Based on Glasgow to Manchester cheapest return (3 day course) booked one month in advance

Secondary to this, it is also recommended that financial support be provided to increase uptake and attendance of Scottish third sector re-use organisations on those courses in "medium" demand. The topics that fall under this category, as highlighted above, also link to the priority materials however, due to the lower level of interest than the high demand areas, the impact on tonnage and quality is likely to be lower than for high demand topics.

3.1.4 Recommendation summary:

- Explore whether there are other reasons, in addition to cost and time, behind low uptake of existing opportunities, to identify and address any additional barriers. Provide financial support for organisations to attend training courses (currently available in limited locations within Scotland) on the following topics:
  - Furniture repair: Woodwork, joints, fixings.
  - Textiles repair: Sewing skills.
- Provide financial support for organisations to attend training courses (currently with limited provision in Scotland and Northern England) on the following topics:
  - Furniture repair: painting and finishing; and cleaning.
  - Electronic equipment repair: small EEE fault diagnosis and repair; and large EEE fault diagnosis and repair.
  - Textile repair: repair skills excluding sewing; and cleaning and stain removal.
- Provide financial support for organisations to attend training courses (currently with limited provision in Scotland and Northern England) on the following topics:
  - Furniture repair: metal furniture; upholstery (from scratch).
  - Electronic equipment repair: other electrical repairs and re-wiring.
- Provide financial support for organisations to undertake PAT training.

In order to provide financial support to organisations wishing to take up training opportunities, Zero Waste Scotland may wish to consider setting up a fund to which organisations can apply. The fund details should set out which topics are covered, whether funding will be available for accredited courses only or also non-accredited ones, what is covered (travel, attendance, etc.) and what business benefits are expected as a result of funding (for example: expansion of the range of items collected for re-use and/or increase in tonnage diverted for re-use), so on. Any prioritisation on how funding will be allocated should also be provided, for example, the topics that are more likely to be funded. Information gathered from the application should include details of the course, provider, location of training, number of staff attending, total amount applied for and how this has been derived, details of accreditation/resultant qualification and so on.

Details of funding opportunities and the available courses should be advertised on the Zero Waste Scotland website and, perhaps, circulated to Scottish third sector re-use organisations directly to maximise uptake.

3.2 Opportunities to expand existing training

3.2.1 Standalone modules

At present, there are numerous areas (as detailed in Appendix 8) where training is available but only through long, intensive courses which only contain one or two modules relevant to repair. If these modules were also made available as standalone courses, it would increase the opportunities for third sector re-use organisations to access relevant training.

As these courses have already been developed and are currently being delivered, there would be no training development costs associated and for providers, it could offer additional income.

It is recommended that Zero Waste Scotland works with providers of such courses in order to determine viability. This will involve a review of where such courses exist as they were considered out

of scope for this research since the modules do not constitute a relevant training opportunity, currently available to Scottish third sector re-use organisations. In addition, engagement with providers would be required in a one-on-one capacity, rather than in a round table or "group engagement" setting since all providers and courses operate differently. The process would also need to consider costs, either to Zero Waste Scotland directly, or to providers which Zero Waste Scotland could cover/contribute to as part of a support package.

3.2.2 Regional delivery

The assessment of training provision highlights that there are some courses with very limited provision in Scotland and the North of England. The specific topics where this is the case, have been highlighted above.

It may be considered appropriate in some cases, particularly where demand is high and for off-site courses, for providers to deliver courses in Scotland as one-off or occasional occurrences and this potential should be explored. There may be barriers to such delivery (for example, the need for a suitable location and equipment) and providers may require a minimum number of attendees to be guaranteed in order to make such it economically viable for them to do so. However, these issues may be overcome if training was organised in conjunction with Zero Waste Scotland. This may also prove to be a more economical way for Zero Waste Scotland to support training provision rather than providing support for several staff members from Scottish re-use organisations to travel to England in order to attend the same course.

It is recommended that Zero Waste Scotland explores the viability of this option with training providers, particularly for high demand subjects, where accredited training opportunities are limited. Further details of such courses are available in the full training database. The research would also need to consider the likely costs involved since there are likely to vary considerably depending on the usual location of the trainer, intensity of the course, equipment requirements, etc.

3.2.3 Recommendation summary:

- That Zero Waste Scotland undertakes a period of specific research to identify details of courses currently in existence which include modules on relevant topics which are not currently available as standalone modules. Further to this, it is recommended that Zero Waste Scotland engages with providers on a one-on-one context to explore the opportunities and costs involved to make relevant modules "standalone" opportunities, either to re-use organisations or on a wider basis.
- That Zero Waste Scotland works directly with training providers to determine the viability and costs involved in order to deliver courses in Scotland or in specific Scottish regions, where these opportunities are not currently available.

It is recommended that any development of new training focuses on the Zero Waste Scotland priority areas of furniture, EEE and textiles, although support for the development of training for the other materials should also be considered.

3.3   Added Value - New training development

3.3.1   *No current provision*

There are several areas where the development of new training may be of benefit. In particular, this approach may be necessary for topics where no provision was identified but where the needs assessment highlighted a demand:

- Furniture repair: plastic furniture repair; and quality assurance and health & safety[17].
- EEE repair: quality assurance and health & safety[17]; and white goods/EEE cleaning.
- Textiles repair: quality assurance and H&S.
- Other repair types: toy and baby equipment repair; and musical instrument repair.

3.3.2   *Where demand outstrips current provision*

To assess the priorities for training development, two issues were considered and rated:

- The potential impacts of new training provision; and
- The relative ease which new training opportunities could be provided (the "ability" of training to be developed).

Further information on the methodology is available in section 0 below.

Additional issues relating to the development of new training courses, such as cost and accreditation, have been explored further in Appendix 7.

It is also important to note that any new training that is developed needs to be kept up to date to reflect changing techniques and trends in demand for different items.

3.3.2.1   **High priority training development**

The analysis identified the highest priorities for new training development to be:

- All textile repair skills.
- Cleaning of white goods (e.g. appropriate cleaning agents, equipment and techniques for stain removal and complete disinfection).
- Furniture painting, cleaning (e.g. appropriate cleaning agents, equipment and techniques for stain or dirt removal), deconstruction (e.g. to minimise waste and effectively facilitate repair) and quality assurance (e.g. inspecting repaired items for safety, durability and appearance).

All of these skills are in demand and new training courses covering these were considered relatively easy to develop courses due to the relatively low complexity of the skills required.

It is recommended that the development of new training focusses on these topics initially. Further detail on this recommendation is provided in Appendix 2.

3.3.2.2   **Medium priority training development**

The analysis identified the next highest priorities for new training development to be:

- Large and small WEEE fault diagnosis and repair.
- Upholstery repair.

---

[17] Health and safety training could include safe handling, use and storage of tools, chemicals (e.g. paint) and equipment during repair as well as ensuring consumer safety in the use of the finished product. Specifically for electrical goods, electrical safety procedures could also be included.

- Woodwork/joinery skills.

All of these skills are in demand, but it was considered to be more difficult to develop training in these areas. This is primarily due to the relatively complex and technical nature of the skills involved (most likely requiring delivery in-person by a competent individual).

It is recommended that the development of new training focusses on these topics after those in section 3.3.2.1. Further detail on this recommendation is provided in Appendix 7.

3.3.3 Recommendation summary

- Conduct research into the development of courses for high priority topics.
- Conduct research into the development of courses for medium priority topics.

For both recommendations, the research should include engagement with potential training providers, development of course content (in order to meet accreditation requirements and the detailed needs of re-use organisations) and detailed research into the most appropriate and cost effective means of training delivery. The cost of training development should also be explored since this was outside of the scope of this research and will be highly dependent on accreditation requirements, means of delivery, length of the course and so on.

Further information on these proposals is provided in Appendix 7 however the following summary provides an initial indication of the type of development which could add value to the existing repair training landscape:

High Priority Areas

Training subject	Delivery format	Approx. learning time[18]	Approx. maximum cost per organisation
Textile repair skills	Online with videos	1 day	£38
White goods cleaning	Online with videos	0.5 days	£19
Furniture painting, cleaning, deconstruction and quality assurance	Online with videos	1 day	£38

---

[18] Approximate learning time estimated from the range of courses in the training database with 1 day equating to 7.5 hours.

Medium Priority Areas:

Training subject	Delivery format	Approx. learning time[15]	Approx. maximum cost per organisation
Large WEEE fault diagnosis and repair	In-person at local repair training 'hubs' and online video tutorials	5 days online 2 days in person	£188 for the online element £300 for the in-person element[19] Total £488
Small WEEE fault diagnosis and repair	In-person at local repair training 'hubs' and online video tutorials	3 days online 2 days in person	£113 for the online element £300 for the in-person element[19] Total £413
Upholstery repair	In-person at local repair training 'hubs' and online video tutorials	2 days online 1 day in person	£75 for the online element £150 for the in-person element[19]Error! Bookmark not defined. Total £225
Woodwork/joinery skills for furniture repair	In-person at local repair training 'hubs' and online video tutorials	3 days online 1 day in person	£113 for the online element £150 for the in-person element[19] Total £263

Other Priorities:

As a lower priority than the training highlighted above, plastic and metal furniture repair training should be considered as an expansion to the wooden furniture repair training with an additional time allowance of approximately 1 day online and 0.5 days in person and approximate maximum cost of £113[19].

4 Detailed methodology

The following sections outline the methodology used to produce the recommendations provided in this report.

4.1 Review of existing repair training provision

The research was approached in a structured way to ensure that the database was completed comprehensively. The approach to the research was as follows:

1. Review of existing reports on the re-use sector to reveal initial information on repair training.

---

[19] If the in-person element is delivered in one session.

2. Review of accredited awarding bodies using the Ofqual[20] directory to generate a list of relevant training providers and their contact details.
3. Review of all accredited awarding bodies' websites to identify relevant training.
4. Web search for providers of relevant accredited training. Web search for providers of relevant accredited training. 'Accredited' training was taken as training for which a qualification could be awarded which is assessed by an Ofqual accredited awarding body.
5. Review of all Scottish further education colleges' websites to identify relevant accredited or non-accredited training.
6. Open web search for relevant non-accredited training across a wide range of repair topics. Where provision for training on a particular topic appeared to be widespread and of high quality, searches were limited to Scotland and the North of England as these were considered to be more accessible for re-use organisations to travel to. Where provision for training on a particular topic appeared to be limited, searches captured training from across the UK.
7. Email or phone contact was attempted for some training providers where course information was limited.

It became apparent in the early stages of research that some repair skills are well provided for in terms of availability of non-accredited training courses, and that documenting each individual instance of these courses would reduce the time available to identify training provision across the whole range of repair skills. In agreement with Zero Waste Scotland, the research relating to non-accredited courses was, therefore, focussed on training provision in Scotland and the North of England to reflect the relative ease of travel to training within these locations for staff of re-use organisations. Where there is no or limited coverage of a particular repair skill in these geographic areas, the search was widened to the rest of the UK.

4.2 Training needs survey

The aims of the survey were to:

- Gain an understanding of what re-usable items organisations are processing and repairing most often.
- Identify what training and wider support organisations believe would increase the quantity of items they could repair for re-use.

The survey was uploaded to Survey Monkey and the link was distributed by email to a list of third-sector re-use organisation compiled by Zero Waste Scotland and Ricardo-AEA. Survey questions were agreed with Zero Waste Scotland in advance of its distribution. A total of 46 individuals responded to the survey, which represents an estimated 40 – 50% of Scottish, third sector re-use organisations.

Recipients were given 14 days to complete the survey, however prior to the survey deadline, organisations without an email address or that hadn't responded to the survey, were telephoned and given the option to complete the survey over the phone or complete it via the link.

4.3 Gap analysis

There were three main elements to the gap analysis:

- Rate current training provision.
- Rate the appetite for the provision of training.
- Identify the "gaps" using the above criteria.

Current training provision was assessed as follows:

---

[20] http://register.ofqual.gov.uk/Organisation/Browse . This directory includes the SQA and relevant information from the SQA website was also gathered during this part of the research.

1) Little provision for training on a particular topic in Scotland or Northern England.
2) Some provision but not Scotland-wide.
3) Scotland-wide provision.

A score of zero was applied in limited cases where no training courses were found.

Appetite for new training provision was assessed by the following ratings:

1) Where less than 25% of respondents indicated that they currently carry out a particular repair type or would do so in future if training was available.
2) Where 25-49% of respondents indicated that they currently carry out a particular repair type or would do so in future if training was available.
3) Where 50% & over of respondents indicated that they currently carry out a particular repair type or would do so in future if training was available.

The difference between the rating for breadth of provision and appetite for new training identifies where the most significant gaps in training availability lie.

4.4 Assessment of priorities for training development

To assess the priorities for training development, two issues were considered and rated:

- The potential impacts of new training provision; and
- The relative ease which new training opportunities could be provided (the "ability" of training to be developed).

The "potential impact" was interpreted as the potential to increase the re-use of items that would otherwise be recycled or disposed of to landfill or incineration. Data on the tonnage of re-useable items that are not currently re-used[21] was ranked on a scale of 1-3 (low tonnage – high tonnage). It should be noted that the data appear to be based on rates of re-use of items in their current state i.e. without repair, and therefore does not give an indication of the increased re-use tonnage of repairing items. However, this data has been used here to give an indication of the currently un-tapped re-use potential.

In assessing "potential impact", the relative appetite for training on each topic (as determined through the survey) was also considered as a further indication of the quantity of different re-usable items flowing into re-use organisations. "Ability to address gaps in provision" was ranked based on the following issues:

- Where qualifications exist but they are not provided in Scotland, new training courses could be considered easier to introduce since there would be no need to develop a whole new module.
- Where there are training providers that already offer on-demand group training, they may be able to deliver their courses in Scotland. Therefore, 'ability' may be considered reasonably easy, as long as training providers can get reasonable numbers which will keep the travel cost down and thereby the cost for participants.
- Training in some topics could be delivered by online or video training. Such training may be simpler to develop and therefore easy to address the gaps identified (issues with accrediting such courses not withstanding). Some topics would be most effectively delivered in-person, and the development and provision of these courses may be considered to be more difficult (due to time required to develop the training and also the need to find suitable training delivery organisations or individuals).

---

[21] Zero Waste Scotland - 'Re-use Sector Mapping and Analysis' (Table 32)

Appendix 1 – Summary of current repair training provision in Scotland and Northern England

Course subject	Location	Number accredited	Number not accredited
Furniture repair			
Wood work, joints, fixings	Nationwide	1	0
	Central Scotland	1	9
	North West/East England	7	0
Metal furniture repair	North East Scotland	1	0
	Central Scotland	1	0
	North West/East England	4	1
Plastic furniture repair		0	0
Furniture painting and finishing	Central Scotland	0	5
	North West England	3	0
Upholstery from scratch	Central Scotland	0	3
	North West England	3	0
Upholstery repair e.g. abrasions, scuffs, colour fade, rips, tears		0	0
Deconstruction to minimise waste		0	0
Quality assurance and H&S		0	0
Furniture cleaning	Nationwide	1	0
WEEE repair			
Portable appliance testing	Central Scotland	5	0

Course subject	Location	Number accredited	Number not accredited
	Highlands and Islands	1	0
	North East Scotland	1	0
Small EEE fault diagnosis and repairs	Nationwide	1	0
	Central Scotland	0	1
Large EEE/white goods fault diagnosis and repairs	Nationwide	2	0
	Central Scotland	0	2
	North West England	0	1
Other electrical repairs and re-wiring	Central Scotland	0	1
Quality assurance and H&S		0	0
White goods/EEE cleaning	Nationwide	1	0
Textiles repair			
Sewing skills	Central Scotland	1	4
	North West/East England	4	0
Textile repair skills	Central Scotland	0	1
Textile cleaning and stain removal	Nationwide	1	0
Quality assurance and H&S		0	0
Bicycle repair			
Basic bicycle repairs and cleaning e.g. puncture repair	Central Scotland	0	4
	Highlands and Islands	0	3
	North West England	0	1

Course subject	Location	Number accredited	Number not accredited
Intermediate bicycle repairs e.g. changing brake and gear cables	Nationwide	0	1
	Central Scotland	0	1
	North West England	0	2
Advanced bicycle repairs e.g. changing gearing and wheels, bottom bracket servicing	Central Scotland	0	9
	Highlands and Islands	0	5
	North West England	0	2
Other repair types			
Bookbinding and repair	Central Scotland	0	1
	North West England	2	0
Toy and baby equipment repair		0	0
Musical instrument repair		0	0

Table 5: Number of accredited and non-accredited training courses available in key topics

Appendix 2 – Current repair training provision: full database

For full database, see attached Excel spreadsheet.

Appendix 3 – Sources used to develop training database

ABC Awards - http://www.abcawards.co.uk/?s=&job-sector=print&job-role=&for=qualification

ABMA Education http://abma.uk.com/

ADL Online Courses https://adlonlinecourses.com

Agored Cymru - http://www.agored.org.uk/Qualifications/Agored-Cymru-Qualifications/

AIM Awards - http://aimawards.org.uk/aim-awards-qualifications-units/?p=suite&fid=6

Airedale http://www.airedale.com/web/Training-Events/Training-Courses.htm

AJI Consultancy and training http://www.ajiconsultancy.co.uk/

Appliance Academy http://www.applianceacademyharlow.co.uk/

APT Awards http://www.aptawards.org.uk/qualifications-list/

AQA http://www.aqa.org.uk/

Ascentis - http://www.ascentis.co.uk/provision.asp?qualcats_id=15

ASDAN http://www.asdan.org.uk/home

ASFI http://www.asfi.org.uk/

ATG Training http://cycletraining.co/

ATHE http://athe.co.uk/athe-qualifications/

AVA http://awardingva.org/

Ayrshire College http://www1.ayrshire.ac.uk/

Bike Right http://www.bikeright.co.uk

Blackburn College http://www.blackburn.ac.uk

Borders College www.borders.ac.uk

BPEC http://bpec.org.uk/

Bridgewater College http://www.bridgwater.ac.uk

British Gas Training http://www.britishgas.co.uk

Brockhurst College http://www.brock.ac.uk

Brook Lyndhurst on behalf of Zero Waste Scotland - Engagement with re-use and repair services in the context of local provision (Dec 2012)

Burnley College http://www.burnley.ac.uk

Central Nottingham College http://www.centralnottingham.ac.uk/

Certa http://www.certa.org.uk/

CITB CSkills Awards http://www.citb.co.uk/awards/qualifications-and-courses/construction/

City & Guilds - http://www.cityandguilds.com/qualifications-and-apprenticeships/#fil=uk

City College Norwich Qualifications http://www.collegequalifications.org.uk/qualifications

City of Glasgow College http://www.cityofglasgowcollege.ac.uk/

Cycle Form http://www.cycleform.co.uk

Cytech http://www.cytechtheoryone.co.uk/

Dixon Academy http://www.dixontraining.co.uk/courses/

Dumfries and Galloway College http://www.dumgal.ac.uk/

Dundee and Angus College https://dundeeandangus.ac.uk

Edexcel http://www.edexcel.com/

Edinburgh Bicycle Cooperative http://www.edinburghbicycle.com

Edinburgh Bike Station http://www.thebikestation.org.uk

Edinburgh College http://www.edinburghcollege.ac.uk/

EEESafe http://eeesafe.com/training/

Electronics Geek http://www.electronicsgeek.co.uk

EMagister http://www.emagister.co.uk/domestic_appliance_service_repair_courses-ec170303036.htm#/domestic_appliance_repair_courses-tps233289.htm

Engineering Construction Industry Training Board http://www.ecitb.org.uk/Programmes/AwardsQualifications/Qualifications/ListOfECITBQualifications/

Engineering Training Council NI http://www.etcni.org.uk/MainNav/ETCAL/NVQ-Qualifications.aspx

Excellence Achievement and Learning Ltd http://qualifications.eal.org.uk/qualifications-engineering#

Fashion Capital http://www.fashioncapital.co.uk

Fife College http://www.fife.ac.uk/

Forth Valley College www.forthvalley.ac.uk

Future Quals http://www.futurequals.com/qualifications/sectors/qcf/engineering-and-manufacturing-technologies/4.2-manufacturing-technologies/index.html

Gateway Qualifications http://www.gatewayqualifications.org.uk/

Glasgow Bike Station http://www.thebikestation.org.uk/evening-classes-glasgow/

Glasgow Clyde College http://www.glasgowclyde.ac.uk/

Glasgow Kelvin College http://www.stow.ac.uk/

Gower College Swansea http://www.gowercollegeswansea.ac.uk

Greenbank College http://www.greenbankcollege.org.uk

H.A.L Training http://hal-training.co.uk/products/15-day-air-conditioning-refrigeration-course

ICQ https://icanqualify.net

Industry Qualifications http://www.industryqualifications.org.uk/qualifications/database

ITC First http://www.itcfirst.org.uk/

Kendal College http://www.kendal.ac.uk

Lantra Awards http://www.lantra-awards.co.uk/

Laser Learning Awards http://laser-awards.org.uk/

Leicester College http://www.leicestercollege.ac.uk/

Libra Management http://www.libramanagement.com

Lifetime Awarding http://www.lifetimeawarding.co.uk/qualifications

Logic Certification http://www.logiccertification.com/learner-zone/qualifications-we-offer.aspx

NCFE http://www.ncfe.org.uk/

New College Lanarkshire www.nclanarkshire.ac.uk

Newbattle Abbey College http://www.newbattleabbeycollege.ac.uk/

Newcastle College http://www.ncl-coll.ac.uk/

NOCN http://www.nocn.org.uk/

North East Scotland College http://www.abcol.ac.uk/

Northumberland Adult Learning Centre http://www.northumberland.gov.uk/

OCN London http://www.ocnlondon.org.uk/qualifications/ocn-london-qualifications.aspx

OCN Northern Ireland http://www.ocnni.org.uk/

OCN West Midlands Region http://www.ocnwmr.org.uk/

OCR http://www.ocr.org.uk/

Ofqual - Register of Regulated Qualifications - http://register.ofqual.gov.uk/Organisation/Browse

Oldham College http://www.oldham.ac.uk

Open Awards http://www.openawards.org.uk/

Open Study College http://www.openstudycollege.com/

PAA\VQ-SET http://www.paa-uk.org/

Practical Refridgeration Training Centre http://www.prtc.co.uk/

Princes Trust http://www.princes-trust.org.uk/

ProQual AB http://www.proqualab.com/qualifications/

Qualifi http://www.qualifi.net/course_accreditation.php

Qualifications Network http://qualifications-network.co.uk/

QualSafe Awards http://qualsafeawards.org/qualifications

ReMade in Edinburgh http://www.remadeinedinburgh.org.uk

Repairmydevice.net http://www.repairmydevice.net/

Resource Futures on behalf of WRAP - Composition of kerbside and household bulky waste (Aug 2012)

Resource Futures on behalf of Zero Waste Scotland - Scottish re-use mapping and sector analysis (2014)

Richmond Adult Community College http://www.racc.ac.uk/

Rotherham College www.rotherham.ac.uk

Scotland's Rural College http://www.sruc.ac.uk/

SFEDI Awards http://sfediawards.com/

Skills First http://www.skillsfirst.co.uk/

South Lanarkshire College http://www.south-lanarkshire-college.ac.uk/

SQA http://www.sqa.org.uk/

Start in Salford http://www.startinsalford.org.uk

The British Institute of Cleaning Science - http://www.bics.org.uk/skills-frameworks-and-standards/skills-frameworks-and-standards.html

The Leather Connection http://www.theleatherconnection.com/

The Manchester College http://www.themanchestercollege.ac.uk

The Sheffield College http://www.sheffcol.ac.uk/

The Training Academy http://whitegoods-training-academy.co.uk/training_programs.php

Trafford College http://www.trafford.ac.uk/

Training Qualifications UK http://www.tquk.org/index.php/qualifications

Training World http://www.trainingworld.co.uk/

Tyne Metropolitan College www.tynemet.ac.uk

University of the Highlands and Islands http://www.uhi.ac.uk/

Valpak Consulting on behalf of Zero Waste Scotland - Re-use of WEEE from HWRCs (April 2014)

Velocity http://velocitylove.co.uk

Warwickshire College Group http://www.warwickshire.ac.uk/

West Cheshire College http://www.west-cheshire.ac.uk/

West College Scotland http://www.westcollegescotland.ac.uk

West Lothian College http://www.west-lothian.ac.uk/

Westminster Adult Education College http://www.waes.ac.uk

White Goods Training Academy http://whitegoods-training-academy.co.uk

Wilkinson Welding Academy http://www.wilkinson-welding-academy.com

WJEC http://www.wjec.co.uk/

Wolverhampton College http://www.wolvcoll.ac.uk

Appendix 4 – Training needs survey results and analysis

Analysis

	Number of staff by type (% of survey respondents)			
	1-4	5-9	10-19	20+
Full-time	46%	17%	20%	11%
Part-time	61%	20%	9%	4%
Volunteers	15%	20%	24%	43%
Trainees	41%	17%	11%	4%

Table 6: The number of staff that re-use organisations most frequently reported themselves as having (where totals for each staff type do not add to 100%, this is because some organisations did not respond to this question).

Domestic furniture	Large WEEE	Small WEEE	Office furniture	Commercial items	Textiles	Paint	Mattresses	Carpets	Musical Instruments	Children's toys	Bicycles	Books
72%	61%	70%	52%	9%	48%	4%	54%	41%	39%	52%	46%	65%

Table 7: The % of survey respondents handling each re-usable tem category

	Under 50 tonnes	50-99 tonnes	Over 100 tonnes
Collected	17%	20%	35%
Re-used	24%	26%	20%
Recycled	43%	11%	13%

Table 8: Tonnage of items collected, re-used and recycled (% of survey respondents)

	Wood stripping, polishing, staining, finishing	Wood joints, fixings	Non-wood, painting and redecoration	Upholstery from scratch	Upholstery repair	Metal furniture repairs	Plastic furniture repairs	Deconstruction	Upcycling	Quality assurance and health and safety
Currently	22%	33%	13%	4%	17%	9%	4%	28%	24%	33%
In future (if training provided)	39%	33%	43%	41%	48%	39%	26%	30%	48%	28%
Combined (current and future)	61%	65%	57%	46%	65%	48%	30%	59%	72%	61%

Table 9: Types of furniture repair activities carried out (% of survey respondents)

	PAT (Portable appliance testing)	Large WEEE - fault diagnosis	Small WEEE - fault diagnosis	Electrical re-wiring, soldering and PCB repairs	Quality assurance and health and safety checks of repaired items
Currently	67%	28%	33%	13%	39%
In future (if training provided)	13%	30%	33%	33%	26%
Combined (current and future)	80%	59%	65%	46%	65%

Table 10: Types of EEE repair activities carried out (% of survey respondents)

	Basic bicycle repairs and cleaning such as puncture repair	Intermediate bicycle repairs such as changing brakes and gear cables	Advanced bicycle repairs such as changing gearing and wheels or bottom bracket servicing	Quality assurance and health and safety checks of repaired items
Currently	39%	30%	20%	30%
In future (if training provided)	13%	20%	33%	22%
Combined (current and future)	52%	50%	52%	52%

Table 11: Types of bike repair activities carried out (% of survey respondents)

	Sewing for basic repairs such as rips, tears, patching	Upcycling	textile cleaning and stain removal	Working with difficult fabrics such as leather or silk	Quality assurance and health and safety checks of repaired items
Currently	15%	13%	28%	4%	20%
In future (if training provided)	37%	46%	28%	33%	37%
Combined (current and future)	52%	59%	57%	37%	57%

Table 12: Types of textile repair activities carried out (% of survey respondents)

Survey questions

1. Organisation name

[   ]

2. Contact name

[   ]

3. Job title

[   ]

4. Telephone number

[   ]

5. Email address

[   ]

6. Number of full time employees

- ◯ 1-4
- ◯ 5-9
- ◯ 10-19
- ◯ 20+

7. Number of part-time employees

- ◯ 1-4
- ◯ 5-9
- ◯ 10-19
- ◯ 20+

8. Number of volunteers

- ◯ 1-4
- ◯ 5-9
- ◯ 10-19
- ◯ 20+

9. Number of trainees/placements for example SVQ

- ◯ 1-4
- ◯ 5-9
- ◯ 10-19
- ◯ 20+

10. What types of re-usable items are accepted by your organisation? (select all that apply)

☐ Domestic furniture	☐ Paint	☐ Wood and building products
☐ Large WEEE	☐ Mattresses	☐ Paper
☐ Small WEEE	☐ Carpets	☐ Plastics
☐ Office furniture	☐ Musical Instruments	☐ Cartridge toners
☐ Commercial items	☐ Children's toys	☐ Books
☐ Textiles	☐ Bicycles	

11. Please provide the tonnage that your organisation accepts per annum

	Weight accepted per annum
Collected per annum (2012/13)	[▼]
Reused per annum (2012/13)	[▼]
Recycled per annum (2012/13)	[▼]

12. What types of furniture repair activities do you currently carry out or would you do in the future if training was available? (select all that apply)

	Currently	Future (if training available)
Wood, such as stripping, polishing, staining, finishing	○	○
Woodwork, such as joints, fixings	○	○
Non-wood, such as painting and redecoration	○	○
Upholstery from scratch	○	○
Upholstery repair, such as abrasions, scuffs, colour fade, rips, tears	○	○
Metal, such as soldering	○	○
Plastic furniture repairs	○	○
Deconstruction to prepare for recycling/repair	○	○
Upcycling	○	○
Quality assurance and health and safety checks of repaired items	○	○

Other (please specify) furniture repair activities

```


```

13. What types of WEEE repair activities do you currently carry out or would you do in the future if training was available? (select all that apply)

	Currently	Future (if training available)
Portable appliance testing	○	○
Large WEEE - fault diagnosis	○	○
Small WEEE - fault diagnosis	○	○
Electrical re-wiring, soldering and PCB repairs	○	○
Quality assurance and health and safety checks of repaired items	○	○

Other WEEE repair activities (please specify)

```


```

14. What types of textiles repair activities do you currently carry out or would you do in the future if training was available? (select all that apply)

	Currently	In future (if training available)
Sewing for basic repairs such as rips, tears, patching	○	○
Upcycling	○	○
textile cleaning and stain removal	○	○
Working with difficult fabrics such as leather or silk	○	○
Quality assurance and health and safety checks of repaired items	○	○

Other textiles repair activities (please specify)

```
[                                                        ]
```

15. What types of bicycle repair activities do you currently carry out or would you do in the future if training was available? (select all that apply)

	Currently	In future (if training available)
Basic bicycle repairs and cleaning such as puncture repair	○	○
Intermediate bicycle repairs such as changing brakes and gear cables	○	○
Advanced bicycle repairs such as changing gearing and wheels or bottom bracket servicing	○	○
Quality assurance and health and safety checks of repaired items	○	○

Other bicycle repair activities (please specify)

```
[                                                        ]
```

16. Do you carry out any other repair activities to items other than furniture, textiles, WEEE and bicycles?

○ Yes

○ No

If yes, please provide details

17. What certification are you required to have to carry out your repair activities for example as a condition of your funding?

☐ Health and safety

☐ Environmental

☐ Quality assurance

Other (please specify)

18. Please tell us about any other support for repair activities that you feel would benefit your organisation or other third sector organisations in Scotland

19. Do you currently offer your staff / volunteers training?

○ Yes

○ No

20. What training do you currently offer your staff / volunteers?

21. Does this training meet a quality standard such as Revolve or PAS 141?

22. Does this training lead to a qualification (for example: SVQ, HNC)

○ Yes

○ No

23. Do you currently provide time-off or financial support for your staff/volunteers so they can attend training?

○ Yes we offer both financial support and time-off

○ Yes we offer time-off

○ Yes we offer financial support

○ No

24. Would you provide time-off or financial support in the future for your staff/volunteers to attend training?

○ Yes

○ No

25. Please provide any further information about training provision that you think is relevant

Full results

See Excel attachment for the full survey results.

Appendix 5 – Gap analysis table

Current and future repair training needs	Breadth of existing provision Low (1) Medium (2) High (3)	Appetite for increased provision Low (1) Medium (2) High (3)	Gap (provision minus appetite) Small (Green) Medium (Orange) Large (Red)
Furniture repair			
Wood work, joints, fixings	2	3	-1
Metal furniture repair	1	2	-1
Plastic furniture repair	0	2	-2
Furniture painting and finishing	1	3	-2
Upholstery from scratch	1	2	-1
Upholstery repair e.g. abrasions, scuffs, colour fade, rips, tears	0	3	-3
Deconstruction to minimise waste	0	2	-2
Quality assurance and H&S	0	3	-3
Furniture cleaning	1	3	-2
WEEE repair			
Portable appliance testing	3	3	0
Small EEE fault diagnosis and repairs	1	3	-2
Large EEE/white goods fault diagnosis and repairs	1	3	-2
Other electrical repairs and re-wiring	1	2	-1

Quality assurance and H&S	0	3	-3
White goods/EEE cleaning	0	3	-3
Textiles repair			
Sewing skills	2	3	-1
Textile repair skills	1	3	-2
Textile cleaning and stain removal	1	3	-2
Quality assurance and H&S	0	3	-3
Bicycle repair			
Basic bicycle repairs and cleaning e.g. puncture repair	3	3	0
Intermediate bicycle repairs e.g. changing brake and gear cables	3	3	0
Advanced bicycle repairs e.g. changing gearing and wheels, bottom bracket servicing	3	3	0
Other repair types			
Bookbinding and repair	1	0	1
Toy and baby equipment repair	0	2	-2
Musical instrument repair	0	2	-2

Appendix 6 – New training development: priority assessment

Current and future repair training needs	Potential impacts of new training Low (1) Medium (2) High (3)	Ability to be addressed Difficult (1) Medium (2) Relatively easy (3)	Priority for ZWS[22] Low (1-2) Medium (3-4) High (5-6)
Furniture repair			
Wood work, joints, fixings	2	2	4
Metal furniture repair	1	2	3
Plastic furniture repair	1	2	3
Furniture painting and finishing	2	3	5
Upholstery from scratch	1	1	2
Upholstery repair e.g. abrasions, scuffs, colour fade, rips, tears	2	2	4
Deconstruction to minimise waste	2	3	5
Quality assurance and H&S	2	3	5
Furniture cleaning	2	3	5
WEEE repair			
Portable appliance testing	1	2	3
Small EEE fault diagnosis and repairs	3	1	4
Large EEE/white goods fault diagnosis and repairs	3	1	4
Other electrical repairs and re-wiring	2	1	3
Quality assurance and H&S	2	2	4

---

[22] Impacts + ability to be addressed

White goods/EEE cleaning	2	3	5
Textiles repair			
Sewing skills	3	2	5
Textile repair skills	3	2	5
Textile cleaning and stain removal	3	3	6
Quality assurance and H&S	3	3	6
Bicycle repair			
Basic bicycle repairs and cleaning e.g. puncture repair	1	2	3
Intermediate bicycle repairs e.g. changing brake and gear cables	1	2	3
Advanced bicycle repairs e.g. changing gearing and wheels, bottom bracket servicing	1	2	3
Other repair types			
Bookbinding and repair	2	1	3
Toy and baby equipment repair	1	1	2
Musical instrument repair	1	1	2

Appendix 7 – Additional considerations for new training development

High priority training development

Delivery format

Suggested suitable formats for delivery of the highest priority training and their advantages and disadvantages are highlighted in the table below:

Delivery format	Advantages	Disadvantages
Online learning using video tutorials	No travel costs. Very effective at demonstrating skills. Low delivery cost. Self-paced. A resource that can be referred back to.	Not all organisations/staff may have easy access to a computer. Higher development costs than instructional photos.
Distance learning using DVD video tutorials	No travel costs. Very effective at demonstrating skills. Low delivery cost. Self-paced. A resource that can be referred back to.	Higher development costs than instructional photos. Not all organisations/staff may have easy access to a TV/DVD player.
Online learning using instructional photos	No travel costs. Lower development cost than videos. Low delivery cost. Self-paced. A resource that can be referred back to.	Not as effective at demonstrating skills as video tutorials.
Distance learning using instruction manuals	No travel costs. Self-paced. A resource that can be referred back to.	Not suitable for staff with low literacy skills. Not as effective at demonstrating skills as video tutorials. Delivery may cost more than online learning due to ongoing publication costs.
Use assessment frameworks from existing accredited qualifications and deliver on-site/at repair hubs for groups of re-use organisation staff	No/low travel costs for re-use organisations. Communal learning facilitates knowledge sharing. Very effective at demonstrating skills and facilitates live practice.	High delivery costs. Low flexibility in when and where training is completed. One-time training which can't be referred back to unless accompanied by a manual.

Table 13: Suggested training formats for high priority repair training

Online learning using video tutorials is the recommended format for delivering the high priority repair skills. This is due to its relatively high effectiveness at demonstrating the required skills, low development and delivery costs, and the flexible nature of self-paced learning. If demand was high

enough, a DVD version could be developed for organisations for whom access to online training would be difficult.

To enhance learning, it is recommended that learners are provided with a facility to ask an expert questions about the training content, perhaps through a 'live chat', email or telephone helpline.

Development of this type of training, presents an opportunity to test the uptake and effectiveness of repair training by re-use organisations in a relatively low-cost and low-risk way, prior to further investment in development of more intensive repair training courses.

Cost

It is recommended that the cost of training, including external verification, be kept as low as possible, if not free. As Zero Waste Scotland has funding available to support attendance at repair training, it may be possible to provide new training free-of-charge, however should this change in the future, the following section provides some suggested pricing.

The training needs survey found that bicycle mechanic training was frequently cited as repair training that had already been completed by re-use organisations. This suggests that the format (typically delivered in-person) and cost (ranging from the equivalent of £7.50 to £20 per hour) of these courses matches the financial and practical needs of re-use organisations for bicycle repair skills.

Based on this information, a maximum cost in the region of £5 per expected hour of learning time is considered appropriate for online training. This reflects the reduced level of interactivity relative to in-person training. As little or no additional training delivery effort is required once the online training content is developed and uploaded, a maximum cost of around £5 per expected hour of learning time may be considered an appropriate one-off cost per organisation.

The bicycle repair courses mentioned above were also typically delivered with a modular approach (e.g. three 'levels' which could be completed at different times). It is recommended that any new repair training also uses this approach, to provide recognition for skills acquired without placing a high cost burden on re-use organisations to complete the training in its entirety at once.

Accreditation

It is recommended that these courses are accredited by the training provider, however, Zero Waste Scotland may also wish to consider the possibility of integrating course accreditation into the existing Revolve standard requirements. This could be achieved by awarding credit to the staff who complete the training. The re-use organisation could in-turn gain credit for the proportion of its staff who have completed the training, for example through a bronze (25% of staff trained), silver (50% of staff trained) and gold (75%+ of staff trained) award system. This should be further investigated with Revolve to determine suitability and appropriate criteria for award.

Re-use organisations who don't already have Revolve accreditation could also access this training awards system, which could be an entry-point towards wider Revolve accreditation.

Ideally, the training should include practical self-assessment exercises to demonstrate the skills learnt. Alternatively, these skills could be assessed as part of the existing Revolve accreditation process. This would provide external verification of the skills learnt and therefore provide additional assurance for customers that the items they are buying are repaired to a high standard. However, this would mean that organisations who are not Revolve accredited or not planning to achieve Revolve accreditation would be excluded from this external skills verification.

Medium priority training development

Delivery format

Suggested suitable formats for delivery of the medium priority training include those outlined in Table 13 in addition to the format highlighted in the table below:

Delivery format	Advantages	Disadvantages
Development of new assessment frameworks for accredited qualifications to be delivered on-site/at repair hubs for groups of re-use organisation staff	No/low travel costs for re-use organisations. Communal learning facilitates knowledge sharing. Very effective at demonstrating skills and facilitates live practice.	High delivery costs. Low flexibility in when and where training is completed. One-time training which can't be referred back to unless accompanied by a manual. High development costs.

Table 14: Suggested training formats for medium priority repair training

It is recommended that a combination of an 'in-person' delivery method and online learning with video tutorials is used for the medium priority subjects due to the relatively complex nature of the skills involved and potential risks to customer and trainee safety if incorrect techniques are used. Some aspects of these repair training subjects may be suitable for online learning with the more complex aspects being delivered in person.

The results of the training needs survey indicate that a 'travelling trainer' (a skilled person travelling to deliver training to multiple re-use organisations at a local repair training 'hub') may be the preferred format of re-use organisations for delivery of these training subjects in person. This would minimise travel costs for re-use organisations, present an opportunity for re-use organisations to meet and share knowledge and facilitate effective transfer of skills through demonstration, practice and on-the-spot external verification.

To minimise the costs of training development, existing qualification assessment frameworks could be adapted to include specific repair training skills in upholstery and woodwork, rather than construction of new products. However, no qualification assessment frameworks exist for WEEE repair so this would need to be developed from scratch, perhaps through engagement with the two providers of existing non-accredited training based in England as identified in the repair training database (Dixon Training and White Goods Repair Academy).

Cost

As with the highest priority training, it is recommended that the cost be kept as low as possible, if not free. As Zero Waste Scotland has funding available to support attendance at repair training, it may be possible to provide new training free-of-charge, however should this change in the future, the following section provides some suggested pricing.

Based on the example of bicycle repair courses provided above, it is suggested that appropriate maximum costs should be in the region of £20 per hour of in-person training and around £5 per expected learning hour for online training per organisation.

Splitting the training into distinct modules, with accreditation given for each module will also avoid placing a high cost burden on re-use organisations to complete the training in its entirety at one time.

Accreditation

It is also recommended that these courses are accredited by the training provider and that the possibility for integration into the existing Revolve system be explored.

Appendix 8 – Repair training providers and courses: additional issues

- Relevant units embedded into wider training courses

The review of accredited awarding bodies identified a large number of qualifications which are comprised of many individual units or modules, where only one or two units would deliver the skills required to be able to carry out repairs. In these cases, it did not appear that the relevant units could currently be delivered as standalone qualifications so these courses have not been included in the database. The most common subjects of this type of course are electrical and mechanical engineering, fashion and textiles, and construction (joinery).

Exploring the possibility of increasing the number of standalone modules in conjunction with providers, has been included in the recommendations.

- Relevant accredited qualifications exist but are not delivered by any training providers

There were many instances where the supporting documentation and assessment framework for a relevant qualification had been developed by an accredited awarding body, but a search for training providers did not reveal any results. These qualifications have been excluded from the database.

Some examples of relevant qualifications for which no providers were found are listed below:

- EAL Introductory Brazing and Soldering Skills Level 1.
- EAL Introductory Welding, Brazing, Soldering and Cutting Skills.
- AIM Awards Level 1 Award in Skills for Creative Industries (Craft Pathway): Units in Sewing Machine Techniques and Woodworking Skills.
- Edexcel BTEC Level 1 Award in Construction Skills: Units in Developing Joinery Skills and Developing Carpentry Skills.
- Gateway Qualifications Entry Level Award in Skills for Construction (Entry 3): Unit in Hand Tool Skills for Timber Work.

- Intensive nature of accredited qualifications

Many of the accredited qualifications that were identified during the research appeared to have learning hours and attendance requirements that would not suit the staff time constraints of third sector organisations. As a result, training that required attendance off-site for more than 1 day per week over 18 months or more was excluded from the database.

**Inspiring change
for Scotland's
resource economy**

Find out more at **zerowastescotland.org.uk**
or call freephone **0808 100 2040**

ZERO
WASTE
SCOTLAND