PEMBROKESHIRE COUNTY COUNCIL

Sustainable Procurement Spend Review

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About WRAP

WRAP is not-for-profit, working with governments, businesses and citizens to create a world in which we use resources sustainably. Our experts generate the evidence-based solutions we need to protect the environment, build stronger economies and support more sustainable societies. Our impact spans the entire lifecycle of the food we eat, the clothes we wear and the products we buy, from production to consumption and beyond.

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Executive summary

In declaring a climate emergency, the Welsh Government (WG) are voicing their commitment to nationally change how we make, buy and use products, to move away from manufacturing and disposing of things to re-using and recovering products and materials wherever possible. Public Sector bodies are also declaring a Climate Emergency for their sphere of control, backed up by Action Plans. To inform their corresponding Action Planning, Pembrokeshire County Council has requested a review of how they buy goods and services to seek sustainable procurement improvements that they can make.

Welsh Government have set out how they work across and align areas of responsibility and influence others to bring about change to support both *A Low Carbon Wales* agenda and the goals of the *Well-being of Future Generations (Wales) Act 2015*. A lever for this approach is to stimulate the circular economy for management of resources where the purchasing power of the public purse, circa £6.8 Billion annually in Wales, is a crucial area of focus.

WRAP Cymru provide support to Wales' public sector to imbed best practice and drive cultural change in the sector to increase/scale-up procurement of re-used and remanufactured goods and products containing recycled content, to promote the development of a circular economy in Wales.

Attention is needed to strengthen the local re-use and re-manufacturing markets that in turn, support employment and Well-being (WB) goals. Public sector spending has the scale to influence this area of the economy and requires a whole system view.

The report provides procurement guidance tools to enable the increase of post-consumer recycled (PCR) content, and re-use, recovery and recycling of materials to be built into procurements, such that a new sustainable approach becomes mainstream across divisions. Increasing re-use and recycled content of consumables and substantial contracted services stimulate a circular economy while helping save money and improve efficiency.

A focused sustainability risk assessment approach for the procurement of goods or services holds useful stages for challenging better ways of buying, and is supported by a decision matrix and procurement guidance. When reinforced with an improved contract management processes, this culminates in continuous improvement, the lowering of the carbon impact and cost reduction.

Delivering sustainable procurement across a large, dispersed and complex organisation takes time. Many of the recommendations made should be incorporated into policy, tested and put into practice. Service Areas of Pembrokeshire County Council were approached to review their operational methods and use of materials. Application of single-use plastics, or where high-volumes of textiles or other materials are in use was challenged, to tease out where other projects could evolve. In each division that discussions took place, potential quick wins were found for a shallow dive to develop their scale and viability.

The principles applied during the review follow those of a circular economy and the waste-hierarchy approaches to reduce (buy less), re-use (no single-use), buy recycled content (RC) or re-used (RU) content in repurposed or newly designed goods, recycle (collect and sell) and so on. When considering how to buy well for WB goals, it is critical to apply new thought paths, upfront, at the procurement design phase and product design stages. This approach requires timely tracking of re-procurement timelines and robust contract management processes.

Projects that aid increased procurement of goods with RU and RC are set out in a traffic light system based upon:

- Quick wins that are in control of PCC (Green).
- Actions needing more work with suppliers, or training or require a short trial period (Amber).
- Those that require a business case or further detailed carbon or cost impact evaluation or a whole life assessment for a product change (e.g. plastic item versus a new wooden or glass material) or that are two or more years from re-procurement (Red).

The traffic light system, therefore, reflects the added time required for more complex changes to thoroughly challenge and test ideas both in the supply chain or across Council services, and to provide assurance against unintended consequences. A table of service-specific projects useful for reducing demand and RU and RC are proposed, again with a traffic light approach based on complexity and time needed (short, medium or longer-term) to evaluate further.

In doing so, several carbon-reduction and potential cost savings have also become clear, that would not only benefit the Council's Well-Being Objectives but also supports Pembrokeshire's Climate Change Action Planning.

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1.0 Background and objectives

In declaring a climate emergency, the Welsh Government (WG) are voicing their commitment to nationally change how we make, buy and use products, to move away from manufacturing and disposing of things to re-using and recovering products and materials wherever possible. Public Sector bodies are also declaring a Climate Emergency for their sphere of control, backed up by Action Plans. To inform their corresponding Action Planning, Pembrokeshire County Council (PCC) has requested a review of how they buy goods and services to seek sustainable procurement improvements that they can make.

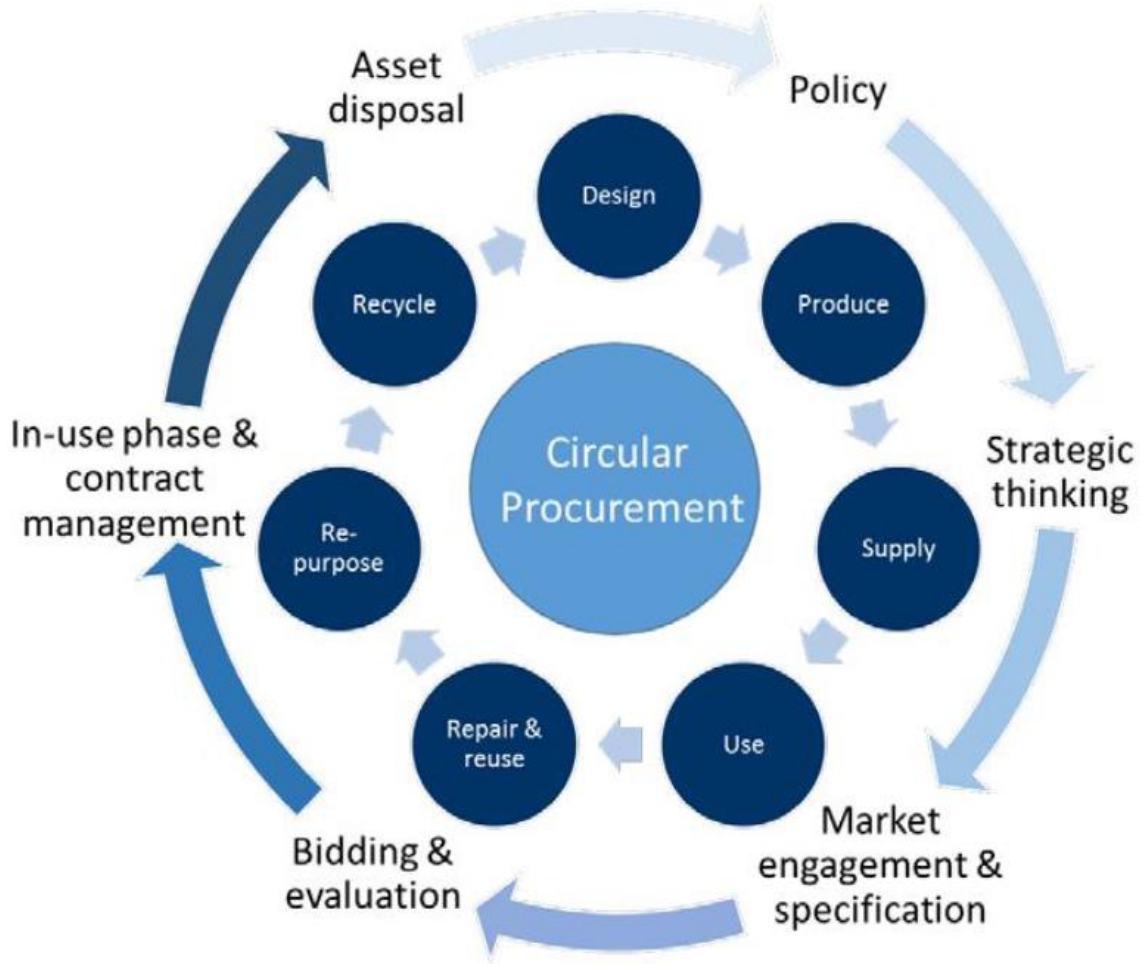
WG have set out how they work across and align areas of responsibility and influence others to bring about change to support both A Low Carbon Wales agenda and the goals of the Well-being of Future Generations (Wales) Act 2015. A lever for this approach is to stimulate the circular economy for management of resources where the purchasing power of the public purse, circa £6.8 Billion annually in Wales, is a crucial area of focus.

WRAP Cymru provide support to Wales' public sector to imbed best practice and drive cultural change in the sector to increase/scale-up procurement of re-used and remanufactured goods and products containing recycled content, to promote the development of a circular economy in Wales.

Attention is needed to strengthen the local re-use and re-manufacturing markets that in turn, support employment and Well-being (WB) goals. Public sector spending has the scale to influence this area of the economy and requires a whole system view.

The process, depicted below in Figure 1 describes how procurement wraps around post-consumer recycled (PCR) materials, re-use and recycling of materials into a circular economy. The first part of this report focuses upon influencing policy and strategic thinking and setting sustainability requirements for re-use and PCR material content.

Figure 1: Circular procurement diagram



Circular procurement diagram. Source: SPP Regions Project www.sppregions.eu

To affect a whole system approach, change is required, not just to the way organisations undertake specific operations or deliver certain activities, but also requires a cultural shift in thinking, where commitments at the highest levels within organisations are needed to make this happen.

Pembrokeshire County Council (PCC) have also declared a Climate Change Emergency and published their corresponding action plan. They have requested a spending review to address better use of resources in their buying within their current procurement portfolio. They have requested a spending review to address better use of resources in their current procurement portfolio. The project focusses on how the standard re-use (RU) and recycled content (RC) materials (plastic, textiles paper and card) can improve in future procurement exercises. The project considers how future changes are assessed, tested and tasked for continued

improvement and how to influence consistent application across the different departments and supply chains.

The principles applied during the review follow those of a circular economy and following the waste-hierarchy. Approaches to reduce (buy less), re-use (no single-use), recycle (collect and sell), recover and repurpose into newly designed goods. When considering how to buy well for economic, environmental and social WB goals of Wales' Future Generations Well-being Act, it is critical that new thought paths are applied, upfront, at the procurement design phase and product design stages. This approach requires timely tracking of re-procurement timelines and robust contract management processes.

The report sets out the key findings against the objectives and a set of recommendations for PCC make evidence-based decisions. Through discussion with PCC, the projects set out are in a traffic light system based upon:

- Quick wins that are in control of PCC (Green).
- Actions requiring more work with suppliers, or training or need a short trial period (Amber).
- Those that require a business case or further detailed carbon or cost impact evaluation or a whole life assessment for a product change (e.g. plastic item versus a new wooden or glass material) or that are two or more years from re-procurement (Red).

The traffic light system, therefore, reflects the additional time required for more complex changes to thoroughly challenge and test ideas both in the supply chain or across PCC services, and to provide assurance against unintended consequences. A table of service-specific projects identified for further work is also offered, with a traffic light approach based on complexity and time needed (short, medium or longer-term) to evaluate further.

2.0 Current procurement processes

2.1 Summary of overall spend

PCC spend around £162 million per year on goods, works and services, the category values are provided in Figure 5. The Corporate Procurement Service (CPS) is responsible for strategic procurement, while financial responsibility for procuring goods and services from designated contracts and frameworks is delegated to departments within the Council.

Table 1: Published information of procurement thresholds

Value of purchase	Action required	Responsible Service
Below £5,000	Minimum of one quote	Lead Service Area Officer
£5,000 to £24,999	Three quotes	Lead Service Area Officer
Over £25,000	Formal tender process on Sell 2 Wales	Procurement service with the Lead Service Officer

For purchases or contracts over £25,000 if there are no suitable existing contracts or framework agreements that are deemed to offer value for money a tender process starts, carried out in line with PCC Contract Procedure Rules. Published tenders for goods and services are advertised via sell2wales and Contracts above the EU Threshold and Subject to the Public Contract Regulations 2015.

2.2 Sustainability risk assessment

Delivery of community benefits through public sector procurement is aligned to the Future Generations and Well-being Act and delivers against its goals. WG has set a policy that community benefits must be a key consideration in all procurement strategies, and 'opportunities to minimise the environmental impact of the contact and to promote environmental benefits', is a long-standing benefit required.

WG developed an approach to Sustainability Risk Assessment (SRA) provided through their SRA templates applied to spends greater than £25,000. SRA helps public sector buyers identify the sustainability impacts linked to the goods or services procured and to help them plan how, where and when the risks or opportunities are addressed in the tender procedures. They also help public sector bodies in Wales to meet the requirements of Principle 3 of the Wales Procurement Policy Statement and to take actions in support of the requirements of the Wellbeing of Future Generations Act 2015.

The Wales Procurement Policy Statement (WPPS, June 2015), defines Procurement in Wales as "*the process whereby organisations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organisation, but also to society and the economy, **while minimising damage to the environment***".

This report section focusses on the strengthening of the SRA templates and other toolkits made available for this report in respect to *minimising damage to the environment*, strengthening how the template is used and adopted in a more consistent manner for all spend at the design phase.

Observations have found that there is:

- National frameworks, such as those devised by the National Procurement Service (NPS) or another contracting authority, evidence their use of SRAs as part of building the framework. It's assumed that other commissioners of framework contracts have completed this exercise to devise the said framework. In line with the WG SRA Guidance, PCC should seek confirmation from the Contracting Authority, that the SRA process was applied, what sustainability objectives were identified, how are they being addressed and how are they adopted into the evaluation. Particularly important, when many frameworks are three-plus years old.
- It is then essential to decide whether the considerations previously made by others, sufficiently meet the current well-being, low carbon and sustainability objectives of the PCC, particularly when new policies are demanding a strengthening in this area. A tender record form should ask whether an SRA is required (an example is provided in Table 1), and record the decisions as to the outcome of an SRA.
- At the mini-competition stage, procurement series with the divisions should complete a further SRA for the specific requirements of the tendered goods or services. When an SRA mini-competition is completed, the evidence needs recording on the tender report sheet. Enabling information to be collated and available as to what sustainability, RU and RC recommendations were adopted resulting from the assessment, and if not, why not. Recording of the decisions to understand the barriers (market not prepared, price assumed, sustainable materials desired not available?) and seek to overcome them, is recommended.

Table 2: Pre-Tender record form – suggested form

9.Sustainability & Community Benefits	
Confirm whether a **Sustainable Risk Assessment (SRA)** has/will be carried out? Does an existing framework SRA outcomes meet current sustainability policy requirements?	Yes ☐ No ☐ (refer to guidance)
If No please state reasons why not	
If yes, what were the recommendations?	

Which will be adopted	
Which will not be adopted and why?	
Have **Community Benefits** been considered?...	Yes ☐ No ☐

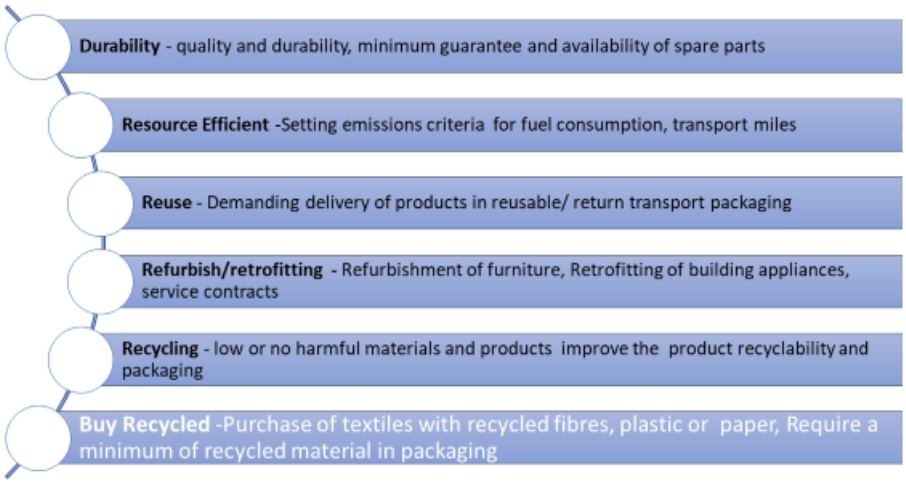
- Contract renewals can be assisted by a digital flag, informing both procurement teams and relevant service heads. To help meet financial spend within fiscal year constraints, any urgent service requirement to the Council or where there is a lack of visibility of contract timelines. This provides a higher profile of contracts that are soon to meet their due date. A further aid would be to strengthen Contract Management processes and record keeping.
- SRA sustainability principles are often not applied systematically to spend under the individual contract value of £25,000, where many goods purchased are via three quotations sought for more than £5,000 and less than £25,000.

For consistency to apply across divisions, an overall toolkit needs adopting and most importantly, training applied. The toolkit should apply a demand review (an example is provided in Appendix A).

2.3 Achieving circular economy outcomes

Figure 2 provides examples of the best practice model in European Green Procurement (GPP) currently for adopting a circular approach to goods and services through a circular procurement. Adoption of the full model would require significant time and market engagement. However, if PCC applied several criteria for each procurement, change for the better would commence.

Figure 2: Examples of circular procurement criteria that can be adopted

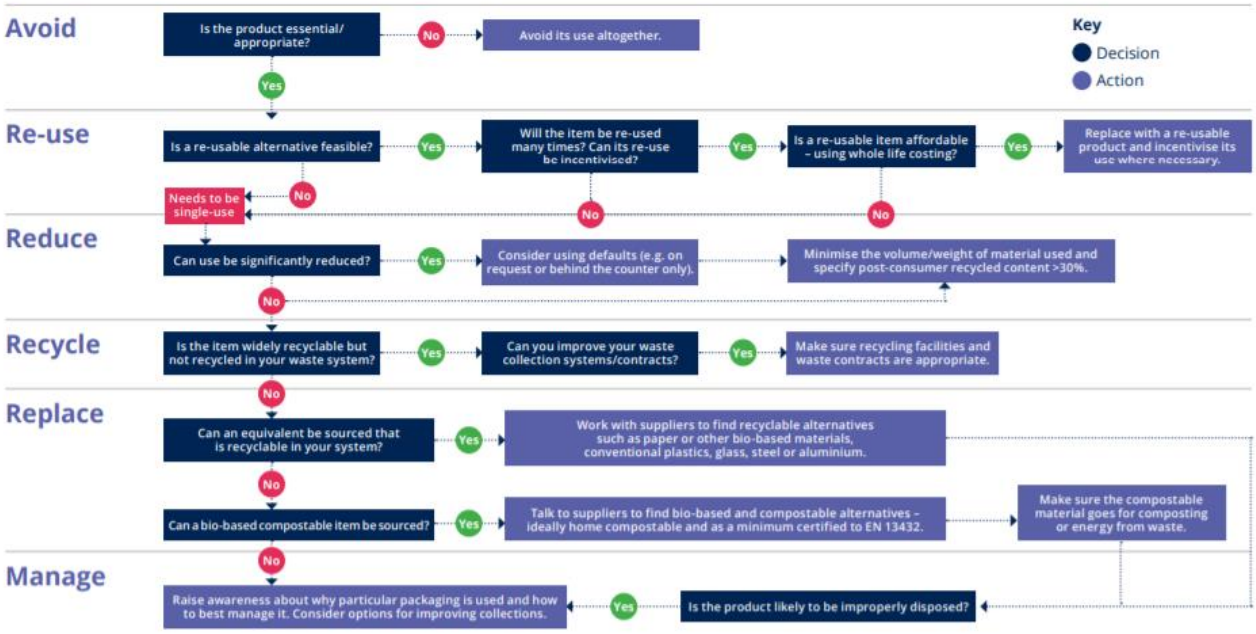


Appendix A contains a Demand Review and Specification Matrix for PCC. There are further questions to prompt the planning phase, to consider the RU and RC of materials for the contract, and to prompt how the materials are captured for re-fill, recycling or treatment.

Appendix B contains a Procurement Decision and Planning Toolkit to enable PCC to consider and record their sustainability decisions. The toolkit encourages those involved in procurement to consider whether more can be done to embed circular economy outcomes into their when they buy goods and services. The toolkit provides key questions to ask across the seven procurement stages (pre-procurement, procurement planning, market testing or creation, procurement strategy, procurement documentation supplier selection and contract management). The Procurement Decision and Planning Toolkit is also provided as a supporting Microsoft Excel document. This toolkit could supplement an updated Pre-Tender Record Form, as noted in Table 1.

The procurement decision tree, shown in Figure 3, provides a useful quick reference tool to aid with procurement decisions in line with the waste hierarchy which can equally apply to any materials under consideration.

Figure 3: Procurement decision tree[1]



Appendix C provides practical procurement guidance for on embedding relevant requirements across the procurement cycle (including advertising specification, supplier selection and contract management). Guidance is provided across a number of key procurement categories including catering, cleaning, construction, electronic equipment, flooring, furniture and textiles. Application of the guidance strengthens PCC's procurement policies and aids generating a positive response from local supply chains while providing sustainable performance measurements.

It is important to understand the specific consequences of any change. To avoid unintended consequences, research into alternative products should consider the overall lifecycle impact of a replacement, alternative routes required for disposal, and the business case for change. Appendix C provides practical circular guidance on considerations at the procurement planning stage, as well as considerations for specification clauses, selection and award criteria, as well as requirements that can be built into a contract to monitor to the impact of increasing RU and RU items.

RECOMMENDATION 1: To adopt a consistent application of an adaption of the Welsh Government's SRA utilising a new Demand Review and Specification Matrix, Procurement Decision and Planning Toolkit and Circular Economy Procurement Guidance (including draft specification wording):

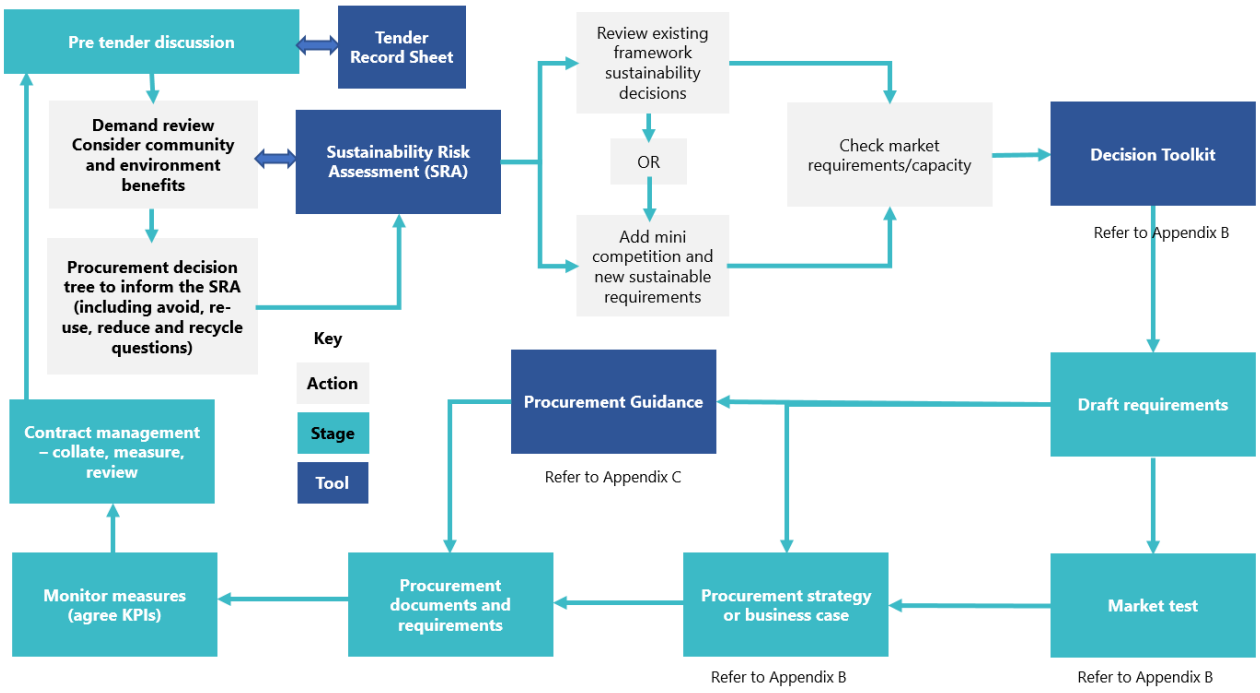
- Appendix A, Demand Review and Specification Matrix for PCC provide further considerations for use to assess the need and impacts.

[1] WRAP Cymru (2019). Public Sector Guidance on the Procurement of Plastics

- Appendix B, Procurement Decision and Planning Toolkit. The toolkit contains additional prompt questions added for each stage of procurements and templates for record-keeping. When rolled out across the organisation, its use and implementation are auditable for contract greater than £25,000.
- Appendix C, Circular Economy Procurement Guidance, sets out the procurement guidance and procurement planning approach examples, with draft specification wording.
- A further option to strengthen this approach is to apply the specific model procurement wording provided WRAP Cymru's Public Sector Guidance on the Procurement of Plastics[2]. The approach supports not only goods or services utilising plastics, but the application of the wording can also be practical to other materials such as paper, wood or textiles or metals.

Figure 4 below describes the process flow for utilising the toolkit described in Recommendation 1 as a means to illustrate its use.

Figure 4: Procurement toolkit process flow



2.4 Planning for spend below £25,000

Clearly, by strengthening the design and delivery phases of a procurement strategy for spend over £25,000, demand reduction, RU and RC can be programmed into a refreshed procurement process. There is also an opportunity to devise a short, but thoughtful QA for every quoted order for between £5,000-£25,000 which are division led purchases. This prompt opens a better

[2] WRAP Cymru (2019). Public Sector Guidance on the Procurement of Plastics

dialogue with market suppliers and adds efficiency challenges to all spend. A '*Sustainable Six*' questions could be asked ahead of every order, having the ambition to embed it as procurement policy and to head towards a new cultural norm. A '*Sustainable Six*' approach requires full adoption, training and importantly, a measuring system of the benefits by recording those decisions, to gauge the impacts of PCC purchasing power.

The type of questions every buyer can ask of themselves or their market are simple steps, for consumables, for example:

- Do I have to buy this product? Can we just stop using them (e.g. single-use refreshment items, sugar sachets, milk cartons, coffee sachets, tea sachets, sauce sachets)?
- Can I re-use packaging or products with RC (e.g. empty and return boxes or pallets, or 100% recovered fibre content packing material, RC plastic containers for cleaning products)?
- Can I reduce the volume needed by collecting and re-using a few times before they break? (e.g. plastic cups termed disposable, but that can be washed and used again, or re-use packaging materials already supplied for returns or in other departments).
- Are the products meeting Fair Trade and other eco-labelling (forest alliance, EU Eco-label for Detergents and Textiles)?
- Can the product be replaced by a better material that is renewable, local or both?
- Does the supply chain offer alternatives, and have I ever asked, what volume is needed to get the right price form the supplier, who else is offering this to assert competition?

As a procurer, it is essential that PCC actively make use of the knowledge in the market and the recovery system available (e.g. return schemes, collections and reprocessing contractors) and to challenge the market to create more circular solutions. The dialogue should extend to cover both suppliers, recycling collection operators, producers and designers as relevant. PCC should share the ambition and vision with primary markets in advance. Engage them in a new dialogue and involve potential registered suppliers, giving them time to develop solutions that meet the new requirements. In turn, PCC should get an insight into the possibilities, or difficulties, for the marketplace, which may already be progressing these points.

RECOMMENDATION 2: To adopt a 'Sustainable Six 6' questionnaire approach for all purchase orders and purchase card decisions for spend up to £25,000, in line with the suggested questions in are to formulate the recommendations.

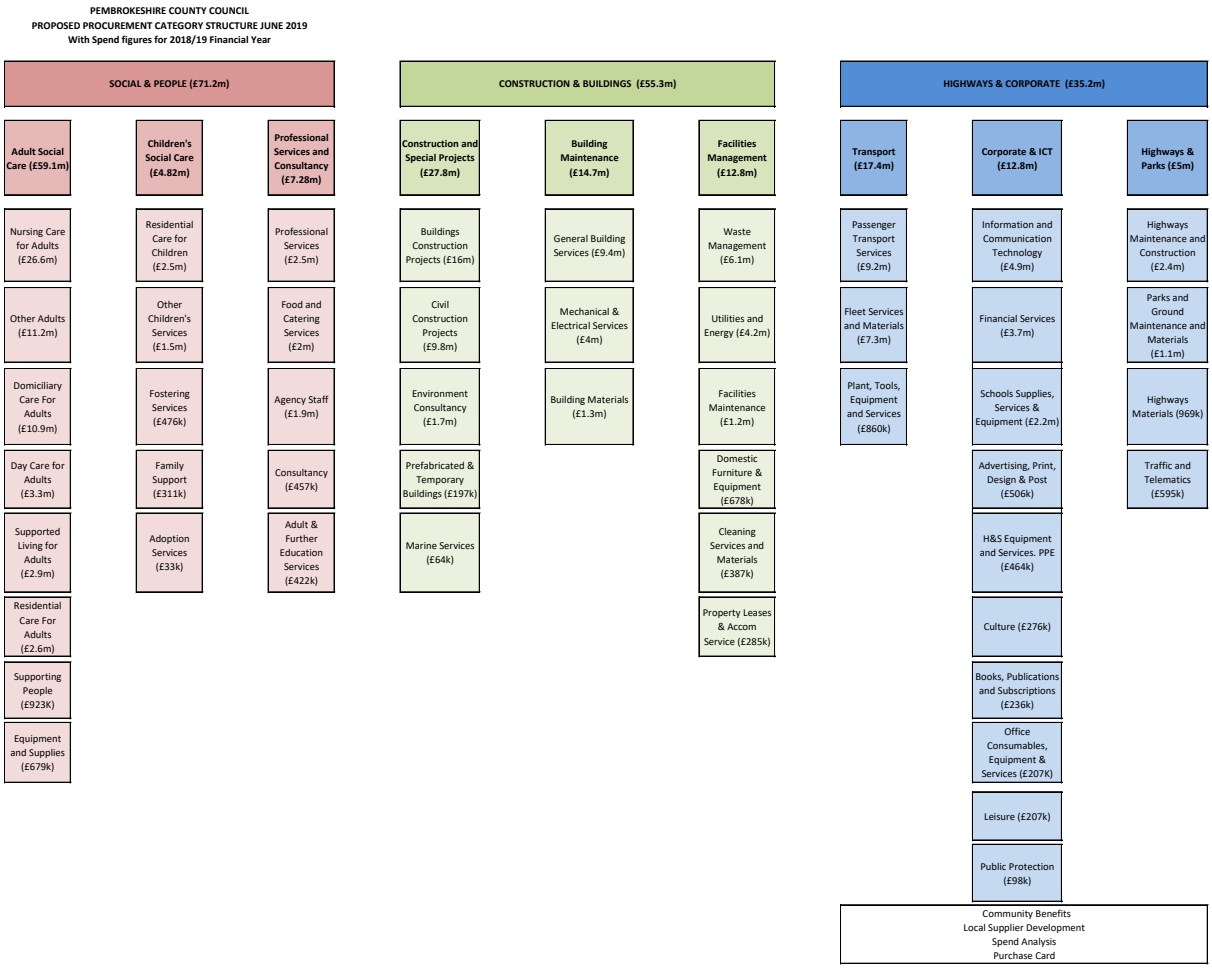
RECOMMENDATION 3: Provide a recording system (an adaptation of the existing Tender Record Form is one option available) to fully record reasons and rationale for why or why not a recommendation is in the tender or quotation requirements. The database should be maintained to draw on similar issues that need resolving and to identify supplier market development requirements.

3.0 Review of procurement categories and frameworks

3.1 Current category management structure

PCC provided the 2018/19 Atamis data for in four quarters datasheets, and the proposed Category Management Structure for 2019. Initial findings regarding the review of Pembrokeshire's current spend (based on the Atamis spend data) identified categories of purchasing that would be suitable for improvement in terms of RC and RU. There are 19 Procurement Categories applied in the Atamis dataset with no subcategories apparent, the vast majority of the >40,000 transactions per quarter are not categorised at all in Atamis (labelled as 'blank') which makes identification of materials purchased within categories difficult on a council-wide basis.

Figure 5: Pembrokeshire CC proposed category management structure in June 2019



3.2 Improvements to the category management structure

Although not actively in place yet, PCC plan to change how they capture procurement data. The draft 2019 Category Management structure (Figure 5) helps to address this, with nine Level 2 Categories and forty-nine Level 3 Procurement Categories proposed. However, to assist with the identification of materials across the Council's services, it is recommended that the second and third levels should expand to include more categories.

3.2.1 Catering services and materials example

Catering Services and Materials could be broken down further into food, drink and concessionary services, as shown in Table 2. This will aid an understanding into organisational wide spend and will enable the identification of areas of focus for spend and the sustainability of materials (e.g. drinks containers or textiles) across the divisions.

A review of the Level One categories groupings, proposed in Figure 5, suggests Food and Catering Services is more akin to Corporate or Facilities Management in the likeness of their requirements and contract management principles than it would be to a people service-supplier contract.

Table 2: Example of recommended category management structure change - catering

	Current Proposed		Recommended						
Level 1	Social & People		Social & People						
Level 2	Professional Services and Consultancy		Consultancy	Food & Catering			Adult Further Education	Professional	Agency
Level 3	Food & Catering Services			Food	Drinks	External Catering Services			

3.2.2 Recycling waste management example

For Recycling Waste Management Services, there are particular challenges to ensuring that what is purchased can be recycled or re-used effectively for RU and RC, for example, paper fibre or plastic polymers re-enter the reprocessing system to create new products, glass bottles return for re-fill and office furniture is re-purposed to another piece of furniture to return efficiently into the remanufacturing process. Without specific and efficient collection systems, this will not happen. Table 3 provides an example of how resource recycling and waste management can be re-categorised.

Table 3: Example of recommended category management structure change - waste

	Current Proposed		Recommended					
Level 1	Construction and Buildings		Construction and Buildings					
Level 2	Facilities Management		Resource Recycling Management			Facilities Management	Building Maintenance	Construction and Projects
Level 3	Waste Management		Re-Use	Recycling collections	Treatment and Disposal			

There is currently low corporate activity through procurement to buy RU and RC products and reduce and re-use core materials such as plastic, paper, card and textiles. Service teams have a will to do more with the materials they handle, but not the tools to make the changes as they are driven directly to recycle materials (rather than consider options to re-use). It is recommended that PCC develop a Sustainable Resource and Waste Management Services framework, including three lots to reflect the new categories of:

- Re-use, repair and re-purpose
- Recycling and waste collections services
- Waste treatment and disposal

This change would support and enable better buying decisions to be made for re-used, PCR plastic and fibre content or biodegradable plastic alternatives, knowing the right re-use and recycling outlets are available.

3.2.3 New financial system

At the time of writing this report, PCC is transitioning to a new financial system. This transition provides an excellent opportunity to address the following recommendations, particularly as the training of all service teams is required while adopting the new system. Understanding what materials PCC purchase, and to identify more changes it can make to embed higher RU and RC materials across the varied services, is the foundation of sustainable procurement. A better understanding is achievable through the new financial management system due to be operational from April 2020.

Corporately requirements could be set for descriptors and checks made that they are applied consistently. PCC also recognise the need for more reliable contract management where sustainability aspects of goods can be set for progressive improvement and bring about better overall management information. Service areas would need support and training for service area users to adopt the new approach.

RECOMMENDATION 4: All levels of the draft Category Management Structure are reviewed with a view to minor reorganisation and the expansion of levels 2 and 3 to identify more defining and specific categories.

3.2.4 Current financial information

For the purposes of this report, the data evaluated is for fiscal year 2018/19, before the expansion of the categories and before a new system is embedded. Table 4 provides the categories of interest defined by the current (2018-19) Atamis datasheets.

Table 4: Categories identified from Atamis procurement category column with RC and RU materials

Category	Sub- Areas	Target Material
Catering	Direct Services to Corporate and Schools	Food Packaging Drinks Packaging
Facilities Management	Soft FM-Building Cleaning Hard FM – Building Maintenance	Packaged Products, Replacement Materials
Construction Materials	Highway Materials	Packaged Products, Stores, aggregate
Construction	Design & Build Contracts	Embedded Plastic
Waste & Environmental Services	Waste Collections Grounds Maintenance	Single-Use products Waste Treatment and Recycling Contracts

The financial information is mainly held in the Atamis system, noted above, which holds data in the form of orders, supplier information and the value of individual spending to orders raised. It does not provide much information as to goods and materials ordered. The publicised Contract Award List A identifies lots, suppliers and their details, as shown in Table 5. The list does not provide the contract value or the actual spend (e.g. Celtic Food Services).

Table 5: Registered contract supplier list (extract)

Category	Title	Reference	Organisation Name (Supplier)	Date from	Date to
Catering	Supply and Distribution of Packaged Food and Beverages - Lot 4, Soft Beverages, Bottled Water, Confectionary, Crisps and Snacks	NPS-FOOD-0069-16-LOT 5	Celtic Foodservices Ltd	04/06/2018	03/06/2020
Catering	Supply and Distribution of Packaged Food and Beverages - Lot 4, Frozen Products	NPS-FOOD-0069-16-LOT 4	Celtic Foodservices Ltd	04/06/2018	03/06/2020

Catering	Supply and Distribution of Packaged Food and Beverages - Lot 3, Ambient Groceries	NPS-FOOD-0069-16-LOT 3	Celtic Foodservices Ltd	04/06/2018	03/06/2020

Table 6 provides an example of the essential information collected for the Celtic Food Services Supplier on Atamis. The item description could help if the descriptions were expanded correctly in line with their Lots (or via a drop-down menu of the Lots), as noted in Table 6. Other opportunities for obtaining a more durable data set would be to have fully completed Purchase Order (PO) Descriptions and Procurement Category, neither of which were available either in most instances in the sample provided.

Table 6: Atamis invoice database (2018/19 extract)

ITEM DESCRIPTION	INVOICE_PAYMENT_ DATE	INVOICE_LINE_ NET_AMOUNT	SUPPLIER_NO	SUPPLIER_NAME	PO DESCRIPTION	PROCUREMENT CATEGORY
SPLIT	10/07/2018	10.56	282020	Celtic Foodservices Li		
FOOD	10/07/2018	188.88	282020	Celtic Foodservices Li		
VENDING	10/07/2018	21.30	282020	Celtic Foodservices Li		
SPLIT	10/07/2018	144.16	282020	Celtic Foodservices Li		

There is, therefore, no current way in which to define the volume of spend on types of items (for example drinks bottles or other packaging types) from these data sets, nor by cross-referencing the Registered Contract Supplier List (only applied for contracts higher than £25,000). While it is possible to filter and calculate a total value spent on a supplier, it is not possible to readily view what is purchased in terms of items. This only being achievable by viewing individual invoices or asking the supplier themselves to provide the data, through their contract management information.

RECOMMENDATION 5: The Atamis and PO cards should have their description of spending thoroughly and consistently completed to narrow down areas of both specific material and financial spend, providing greater service area and corporate visibility.

RECOMMENDATION 6: Review contract management processes and their application (agenda, recording of minutes and actions completed) throughout the contract period, with a defined agenda item requiring progressive sustainability measures to be met (e.g. reduction of plastic and card packaging and transport). An audit to obtain the full picture of both good practice and gaps existing would help matters progress. This approach is essential to being organisationally better prepared for the sustainable procurement strategy design phases, where recommendations later in this report can be applied.

4.0 Examples of good practice

There are a number of existing good practice examples that PCC have in place, as shown in Table 7.

Table 7: Examples of leading sustainable procurement

Division	Project	Material Outcomes
ICT	Leading on agile working rolled out laptops. Notes all recorded on handheld devices. Repair phones locally, old devices in storage for re-use. Re-use low functioning laptops as information screen support and strip and recycle all functioning ICT. Centralised print system.	Paper and fibre demand reduction WEEE Compliance Re-Use Electronic Equipment ICT components re-circulated ICT hardware re-used in communities.
Corporate Functions (meetings)	Single-use items removed (sachets stirrers cups) Refill water jugs plastic removed, disposal water glass napkins replaced with re-used material water fountains	RC fibre cups Plastic demand reduction Re-use
Leisure retail locations Catering	Bottled water moved to glass Plastic cutlery to wooden cutlery Range of bio starch takeaway containers Wooden Stirrers	RC fibre in card Plastic demand reduction
Catering	Replacing plastic bottles used for schools milk provision, pergals implemented so far. See WRAP report	Plastic Demand Reduction
Environment Directorate Business Support Unit	Property operating Procure to Pay systems stopped invoicing and orders printing, digital archives to be considered to reduce printing for audit purposes. Waste services progressing paperless invoicing printing and applying electronic signatures. CRM connectivity request through invest to save programme.	Fibre Demand reduction Reduced paper (fibre), time and printing
Property	Re-Fit Cymru Lighting low E, low replacement parts Reduced packaging built-in refill and return boxes PCR Materials in loft insulations, Re-Use materials in flooring	Refillable and Re-usable packaging specific
Environment Highways	RC plastic bollards, replacement bench slat applied in street furniture	PCR Plastic 100%

Table 8 shows the categories of interest defined by the current (2018-19) Atamis datasheets. It shows areas of interest identified by Support divisions and those that are identified in the Plastics Pact for reduction and elimination.

Table 8: Categories identified with capacity for RC and RU material content

Category	Sub- Areas	Function	Key Target
Catering Services & Materials	Direct Services to canteens, vending machines and Schools Concessions	Food Packaging Drinks Packaging Cleaning Products	Paper and card fibre, Plastic
Highways	Highway Materials	Packaging	Plastic
Facilities Management	Soft FM-Building Cleaning Hard FM – Building	Packaged Products, Cleaning Products Replacement Materials Stores Single-Use Products	Plastics Card Plastic
Construction	Construction Materials	Packaged Products, aggregate	Plastic, Card
	Design & Build Contracts	Embedded Structural Plastic, Flooring and Insulation	Plastic, wood, Textiles
Office	Printing ICT	Single-Use products, Packaging PCR Fibre content, reduce demand	Plastic Card Paper
Waste & Environmental Services	Waste Collections Grounds Maintenance	Single-Use products Personal Protective Equipment (Clothing)	Plastic Textiles

5.0 Recommendations for products enhanced by RU and RC content

Strengthening sustainable procurement across a large and complex organisation takes time. Most of the recommendations made so far need to be structured into policy, tested and put into practice. In each service area where discussions took place, there is a willingness to support this agenda to increase RU and RC content, and several potential quick wins were identified for a shallow dive to establish scale and viability. In doing so, several cost savings have become apparent

5.1 Construction

A brief overview of construction identified that there is some very positive work ongoing with construction and refurbishment contracts such as:

- Designing to BREEAM 'Excellent' Sustainability Standard
- Recycled floor coverings
- WWF 'chain of custody' for all timber
- Recycled glass bottle and hemp loft insulation
- Recycled aggregates
- Site waste management plans
- Site emissions tracking
- 'Materials miles' considered for all materials

More can be achieved by intervening early in the design and build brief for key external and internal materials. The design brief is where the challenge needs to be positioned as the PCC property team will generally set requirements that the designers then seek to deliver through the appointed contract. In that case, product material specification by PCC is somewhat arms-length from the detail of the material type specified, for example for building frames or drainage.

However, PCC can prescribe and set challenging minimum requirements to the designers in a sustainability brief, and throughout the Procurement Planning phases. Further guidance, provided in Appendix C, Construction Services and Construction Materials sections suggests particularly to focus upon:

Design to include reclaimed or redeployed building material. Does your development need to be constructed from all new materials, could some reclaimed or redeployed materials (either from your own development or from the market) be used? In line with the waste hierarchy, can the following preferred approach be applied?

- *Use of reclaimed or redeployed materials*
- *Use of materials with higher levels of recycled content*
- *Use of primary materials*

Construction examples to consider are the sourcing of:

- Facias and downpipes and underground drainage pipes must contain a minimum of 30% recycled plastic.
- Wood products must meet Forest Stewardship Council (FSC), follow WWF 'chain of custody' for hardwoods or all timber be sourced in Wales or the UK (to stimulate the 'local' forestry industries).
- Fibre insulation boards must contain a minimum of 20% PCR fibre.
- Floor coverings must be a minimum of 30% re-used carpet tiling or wood fibre flooring or RC fibre.

Kedel Recycled Plastic[3] products are an example for facias, fencing and play areas or street furniture. Polypipe[4] have developed a circular system where they directly receive recycled plastic from domestic and commercial sources, wash, pelletise and remanufacture the plastic into construction pipes for drainage. Both UK based companies utilise high volumes of PCR in their products.

Natural wood fibreboard insulation such as Pavatex[5] materials derived from the waste of other processes have greater than 80% RC fibre and natural binder, which significantly reduces their environmental impact. The material is readily and sympathetically re-used, recycled or disposed of at the end of life.

Another plastic insulation material for roofing is made from recycled plastic bottles traded as SuperSoft (available via Natural Insulations[6]) is greater than 80% PCR plastic content. Up to 95% PCR plastic Roofing tiles are also widely available from merchants such as Ecomerchant[7] and Roofingsuperstore[8] in the UK. **Regipol is made from 94% PCR rubber, used directly under hard surface floor finishes and over concrete and wood finishes, can also be used under screed and underfloor heating.**

Re-purposed carpets and furniture are available through South Wales social business' (e.g. Greenstream[9], Ministry of Furniture[10], or Furniture Revival[11]) where companies repurpose surplus furniture and carpets into a new design built around the specific client needs for that project.

[3] https://www.kedel.co.uk
[4] https://www.polypipe.com
[5] https://www.pavatex.com/en/home
[6] https://naturalinsulations.co.uk
[7] https://www.ecomerchant.co.uk
[8] https://www.roofingsuperstore.co.uk
[9] https://www.findcarpettiles.co.uk
[10] https://www.ministryoffurniture.com
[11] https://www.thefurniturerevival.co.uk

Case studies with Public Health Wales[12] and Swansea City Council[13] demonstrate how this is achieved. North Wales Police also used this model in their new command and custody centre in Llay North Wales.

At the design stages seek assurance of the provenance of products to be embedded in the designs (e.g. BS standards, eco-labelling country of origin of those products), in addition, BREEAM excellence standards, particularly in the internal fit-out phase. PCC should apply the Procurement Decision Tool in Appendix B to devise the procurement strategy and utilise the Construction Services planning, specification and supplier selection guide in Appendix C.

Design decisions through the design phases should be lifecycle assessed (LCA). For example, PCC could review the life impact of windows to consider whether to move away from uPVC plastic Windows, to hardwood and whether that can be sourced more locally. Further information on whole life assessment research can be found at the wood window alliance website[14].

5.1.1 Sustainable wood

Switching to wood for windows and RU wood fibre products for other structural opportunities is a positive move to reduce plastic consumption, although concerns have been expressed as to where the construction wood is sourced, the alternative being locally sourced, rather than Eastern Europe to reduce carbon miles and support local forestry.

PCC has previously owned a sawmill, but because that specific business model no longer worked, the facility is closed. There is an opportunity to revisit a new model in conjunction with Pembrokeshire Coastal Park Authority, who still own a site and equipment. The model could include proposals to reforest parts of the County's land:

- Woodland creation project sites for the National Forest which could proceed during 2020/21, 11 sites within approximately 43 acres of a variety of urban and rural spaces
- Green Infrastructure Plan, working with communities to deliver the projects identified within it, which can support and add to the National Forest[15].
- County Farms are reviewed as tenancies end, to identify opportunities for specific biodiversity management and tree planting. A potential site in Wolfscastle in partnership with Hywel Dda Health Board is being considered.
- Some existing farms may be struggling under their current lease arrangements. Discussing with the leaseholders diversifying into options for areas of forestry management may help

[12] WRAP Cymru (2016). Swansea Council Sustainable Procurement Case Study, see http://www.wrapcymru.org.uk/sites/files/wrap/Public%20Health%20Wales%20Sustainable%20Workplace%20(4).pdf
[13] WRAP Cymru (2016). Public Health Wales Sustainable Procurement Case Study, see http://www.wrapcymru.org.uk/sites/files/wrap/20180305_Swansea_Council_Case_Study_Final_V1.pdf
[14] https://windows.bwf.org.uk/publications/whole-life-analysis-of-timber-modified-timber-and-aluminium-clad-timber-windows/
[15] www.pembrokeshire.gov.uk/conservation/green-infrastructure

those farmers in the current climate, i.e. investigate current as well as expired leases for managed forest opportunities.

While local forestry plans are being implemented, there is an opportunity to work with Private landowners with existing woodland and forest, partners with adjacent counties or the Natural Resource Wales (NRW) Forestry team to fully evaluate the hard and softwoods available in the County and region. In parallel, should PCC (and other potential public bodies like the NHS Wales Health Boards or the Police) consider specifying locally sourced 'Wood First' Policy when commissioning construction, then that would strengthen the case for a new business case to reopen a sawmill locally. Requiring wood for construction from local sources with the public sector construction materials contracts provides a visible chain of demand for new suppliers.

RECOMMENDATION 7: To prescribe clear requirements for plastic products in construction materials to contain a minimum of 30% PCR plastic content. Apply the guidance for Construction Services and Construction Materials in Appendix C. Targets to deliver this should consider the aims of internal and external stakeholders and market maturity and be time-bound, for example:

- 50% of all plastic construction products to contain a minimum of 25% PCR by 2023.
- 75% of all plastic construction products to contain a minimum of 30% PCR by 2025.

The targets for RC and RU are generated from adopting those that have been tested and exist such as the greater than 30% RC adopted voluntarily in the UK Plastics Pact and by those that the suppliers can already supply. The government are also considering other levers such as fiscal taxes on raw material content and the setting of staged mandatory targets. As these evolve PCC can stretch their targets to stimulate innovation in the supply chain.

RECOMMENDATION 8: To develop a new business plan for Sustainable Forestry in Pembrokeshire or a regional approach that covers options for public collaboration models, public land use scale and deliverability and the evaluation of private existing forestry options. This could provide jobs and a sustainable wood source for construction that supports biodiversity and carbon management through sustainable developments. Apply the procurement Decision and Planning Toolkit in Appendix B, to shape the business case.

5.2 Textiles

Personal protective equipment (PPE) is widely used in all departments. In some areas, PPE is considered to be readily replaceable and, in a few cases, highly consumable. A consistently discarded item is working gloves used in frontline services such as recycling and waste collections, grounds maintenance and highways. The working glove meets all required safety criteria but has low durability, is issued daily to the refuse operatives, and it discarded daily, an assumption of an average of three pairs per week, or 138 pairs per annum per operative is applied. The price ranges from £0.95 to £2.00 per pair costing between £131 and £272 per annum per operative.

The same service in a different council operates a policy of higher quality pairs of gloves issued at a much lower frequency of issuing. An example is provided in Appendix D, which reduces demand down to 26 pairs per annum at an average issue (summer and winter Grade 5), at a price of £76 per operative per annum. These gloves are washed by the operatives with the other PPE clothing they are issued (and can be washed at home as needed). With between a £55 to £196 saving possible per operative, the saving could be used to purchase better quality boots for the operatives that would also reduce the volume required of boots annually.

Concerns were also expressed about the quality of the safety boots and frequency of replacement needed. Work should be done to assess the safety boots purchased by other councils.

All PPE is disposed of in the residual waste. Operatives should return their worn or broken items to receive a new issue, however, this is not consistently practised. PCC contract textiles banks for public use, but there are no textile banks at the operational or waste management depots. A simple solution is to fully enforce policy and for returned PPE to be added to a textile bank, located at the appropriate depot.

Manufacturers of Repreve[16] (100% PCR polyester) have partnered with a number of suppliers of workwear PPE ranging from high visibility jackets, wet weather coats and trousers. CLAD[17] provide the Safety Light range, which is made from 50% regenerated polyester[18] which is made from plastic bottles. **There is an opportunity in the marketplace for PCC with other councils or public sector bodies to consider a framework for sustainably sourced PCR and RC polyester, bamboo and cotton fibres ranging from 15% to 50% content. Considerations for the planning phase include:**

- That workwear includes re-used, refurbished or remanufactured recycled content fibres that meet quality and safety standards.
- That uniform is re-used or refurbished either for internal re-use with PCC or the community sector.
- That personal protective equipment and uniform should incorporate a significant percentage (e.g. 15% or more) of PCR content, wherever technically possible.
- That cardboard packaging should be at least 70% PCR content and plastic packaging should consist of at least 25% PCR content.
- That packaging should be re-usable in a meaningful way, and be fully recyclable in the context of Pembrokeshire County Council's waste management system (details to be provided separately).

Suggested KPIs to include:

- Percentage of redundant uniform that is re-used/refurbished with appropriate evidence from service records.

[16] https://repreve.com
[17] https://cladsafety.co.uk
[18] https://repreve.com

- Percentage of packaging that is re-used/re-usable.

5.3 Plastics

The UK Plastics Pact[19] is a voluntary agreement that brings together businesses from across the entire plastics value chain with UK governments and NGOs to tackle the scourge of plastic waste. One of the goals of the UK Plastics Pact is to 'design out' problematic plastic formats. The UK Plastics Pact has identified the following plastic items to be eliminated:

- Disposable plastic cutlery
- All polystyrene packaging
- Cotton buds with plastic stems
- Plastic stirrers
- Plastic straws
- Oxo-degradable plastic that breaks down to create microplastics
- PVC packaging
- Disposable plastic plates and bowls

Additional items such as drinks bottles, non-detectable black plastic packaging, and a range of flexible plastics and films are also being assessed by the UK Plastics Pact, to determine if they should also be eliminated from use. The discussions with PCC service teams regarding plastics focussed upon the desired outcomes of the UK Plastics Pact and other suggestions that were forthcoming.

[19] The UK Plastics Pact http://www.wrap.org.uk/content/the-uk-plastics-pact

5.3.1 Highways maintenance

Highways Maintenance services have in recent years adopted a product called Instarmac[20] which is cold setting tar used to make temporary pothole and other surface repairs in lieu of permanent hot tarmac repairs. It is a product specified in SWTRA Trunk Road (Welsh Government Contracts to assist with reducing time repairs take on the busiest highways) which is why it has been in stock. Instarmac tubs provide a convenient form of carrying material rather than loading/unloading with a shovel, and it provides consistent quality. The most widely used type costs £14.25 per 25kg tub, see Table 9. In the past 12 months, nearly 3,000 single-use virgin plastic tubs have been used and disposed of using this method while repairing potholes.

Table 9: Instarmac cold setting repair volume and cost comparator

Instarmac Volume and Cost Information								
Material	OrangeTubs £9.48 22kg	Rapid Set resin 32.77	Rapid Yellow tub	Total	kg/annum	Tonnes per annum		Carbon Miles
TEMPLETON	260	180	1040					No.of deliveries/ pickups?
Fishguard	0	0	936					No.of deliveries/ pickups?
Thornton	572	0	936	2912	**72800**	72.8	tonnes	No.of deliveries/ pickups?
Costs £	**7887.36**	**5898.6**	**41496**					

Example Cost Differential Rapid Yellow Tub circa 3000 tubs used annually		£	Volume			Carbon Miles
Cost per Annum	14.25 per Tub	**41496**	2,912 Tubs at 25kg =	72.8	tonnes	No.of deliveries/ pickups?
Cold-Set Loose Delivery	£95 per tonne	**6935**		73	tonnes	Delivery split between depots
		34561				Volume per depot/ delivery needs clarifying

It is proposed that with further work, see Table 12 for more information, much of this plastic could be eliminated.

For the remaining product that is deemed essential for continued use (e.g. Trunk Road maintenance), the empty tubs could be re-used by a yard or store-person by refilling them. This could be achieved with bulk-delivery cold set tarmac (available from quarries at £95 per tonne, an equivalent volume to 40 tubs at £14.25 each) ready for teams to take to sites. Suppliers adopt an approach of utilising greater than 30% recovered plastic in any new tubs purchased. In fact, wherever plastics are deemed essential for the continued use, the minimum recovered plastic content should be a minimum of 30%, wherever performance requirement permit.

A further project identified is to bring into use, small stockpiled materials left from surface dressing materials, where loose 6mm chipping aggregate is mechanically swept and left roadside. There is an opportunity to recover this material from current locations for re-use. The local quarry supplying the material has a wash facility that potentially clean and re-use the material into the next orders. This could represent a 10% reduction in raw aggregate material and respective carbon and cost savings. Further work highlighted in Table 12 is required to establish the detailed benefits.

[20] https://www.instarmac.co.uk/

5.3.2 Catering packaging

Catering Services provides a range of hot, cold and takeaways menus to Schools, both Primary and Secondary level, Residential homes, Leisure Centres and a Historic Building Tea room, plus several drinks vending machine provisions. In line with the principles of the UK Plastics Pact, PCC Catering Services have already eliminated several single-use items. This has included tea and coffee sachets, stirrers, clingfilm from meeting room water jugs, the use of water glass serviettes, removal of plastic single-use cups from water stations and plastic cutlery from canteens.

The proposed criterion, to support Catering Services aims to increase RU and RC and to encourage internal or concession service providers to properly manage the waste generated by also applying clear re-use collections systems.

- Selecting the right packaging (format, protection, preservation, serving portions, etc.).
- Selecting PCR packaging where possible, as long as the packaging guarantees food safety and hygiene.
- Returning packaging for re-use when possible.

In reference to WRAP Cymru's Public Sector Guidance on the Procurement of Plastics[21], there are an array of different materials described that can assist further with identifying and reducing single-use plastics and increasing RC products, particularly in takeaway products. PCC should then test with the current supplier for changing to improved RC or re-usable products.

When re-procuring any concessionary canteen or catering operators, it is advised to apply the process described in Figure 4 and utilising the decision toolkit in Appendix B and the suggested criteria in Appendix C under Catering Services, more RU and RC will be achieved.

A WRAP case study[22] analysed the plastic content of common catering consumables where it was identified that plastics were the dominant material type followed by paper/card and metal foil packaging. The analysis revealed that just under 10% of packaging purchased was expanded polystyrene (EPS) foam, which is hard to recycle. Based on the UK Plastics Pact identified problematic plastics, the analysis concluded that:

- 20% of current disposable plastic catering items should be targeted for elimination.
- 25% should be targeted for avoidance through material substitution and alternatives like re-use.

Based on this aim, the service is considering further steps to take regarding schools' takeaway facilities for packaging of burgers, sandwiches and more widely hospitality compartment trays which are currently black plastic-based. Plastic bottled beverages and more sustainable paper and card packaging are in progress, and further proposals to consider are provided in Table 12.

[21] WRAP Cymru (2019). Public Sector Guidance on the Procurement of Plastics
[22] WRAP Cymru (2019). Public Sector Guidance on the Procurement of Plastics

For procurement guidance, the service should consider the guidance in Appendix C and its application to new food and drink and catering concession arrangements.

5.3.3 Single-use bags and replacement items

The Environment Services for recycling and waste collections, Grounds Maintenance, Soft FM Building Cleaning and Confidential Waste all use large 60L and 90L bags for storing and collecting of recycling and waste from households, offices, litter bins, volunteer groups, public buildings and schools. These are effectively high volume single-use bags. There are also re-usable plastic woven sacks, food caddies and commercial boxes in use in volume with an annual replacement volume required.

Table 11 provides the type, volume and pricing for all types of materials used to manage containment of recycling and waste across the county. There are some great examples of buying recycled plastic in commercial and domestic film bags at 50% and 82% RC. Table 11 also shows that the boxes and caddies are made of 98% RC product, which is an excellent level. The ultimate circular procurement would be for PCC to enable that all old broken or damaged bins are either repaired, recovered and recycled again into new bins or boxes.

Table 10: Plastic use in recycling and waste service provision

Type	Purpose	Est. Volume per annum	Cost per 1000 £	Recycled content %
~Grey Plastic Sacks 60L	Domestic Residual	3,546,400	33.97	50
White Plastic Sacks 90L	Trade Recycling/ Premises Recycling	172,000	54.75	50
Blue Plastic Sacks 90L	Trade Waste/ Premises Waste	62,000	50.97	82
*Red Plastic Woven Bag	Domestic Recycling	12,400	2,130	None
*Blue Plastic Woven Bag	Domestic Recycling	12,400	2,130	None
**Grey 23L Caddy	Kerbside Food	6,720	2,940	98
Silver 5L Kitchen Caddy	Kitchen Food	2,520	980	98
Recycling boxes	Domestic Recycling		2,000	98
Grey Grey Plastic Sacks 90L	Waste Litter Bin/ Grounds and Beach Cleaning	49,700	?	?
Black bags	Premises & Schools	?	?	?

*This is a new scheme for 2019/20 its currently assumed replacement bags are needed at a rate 20% per annum.
** Assumes a replacement rate of 10%.
~ Based on issuing 1 bag per week per household

Residual waste for litter bins, domestic and premises collection are processed for landfill or waste to energy. An additional focus should ensure that future residual bag specifications have the highest possible RC, to aim to at least match the level achieved in the blue bags at >80%. More information is needed to understand how schools and services are procuring bags as numerous

suppliers of single-use black sacks is evident in the data (e.g. the cleaning suppliers, Hallams Catering[23] and Simon Safety[24]).

Recently PCC rolled out a new kerbside recycling scheme that includes re-usable woven plastic sacks with a 1kg bitumen/plastic weighted base. It is planned that the bags last a maximum of 4-5 years with an expected replacement rate of 20% of the stock in use needing replacement annually. PCC could not source RC for those bags, and it is also not clear what the end of use position is with plastic they contain (i.e. their capacity to be recovered, repurposed (through the community sector) or recycled). A council's new recycling collection service needs time to bed in and to assess the performance of products in use. There is an early opportunity to consider in the next six months as to how replacement stock can contain more post-consumer plastic and recycling of old and how this is managed, given the replacement volumes anticipated. Table 12 contains some suggestions.

5.4 Paper and card

Positive actions to digitalise processes procure-to-pay and agile working printing paper demand is declining. However, it was noted throughout visits to services that the paper purchased for photocopying printing is not recycled paper (PCR). On further investigation with teams accessing the Pembrokeshire Lyreco[25] supplier account, five reams of 500 sheets of recycled printer quality paper, is cheaper than the standard quality non-recycled paper currently widely purchased.

A solution is insisting that all services buy the recycled paper only for printing and copying. Enforcing the policy corporately and by working with Lyreco to make only100% recycled A4 and A3 printer paper available for ordering on the Pembrokeshire account. By enforcing this change, paper required for essential printing will not only be more sustainable but will also save money.

Lyreco (PCC call-off contract) provide a number of PCR fibre paper ranging from 50% to 100%, at 80 gsm that operate well in printers. That paper is also cheaper than the budget reams. Where copying remains essential, alternative high RC printing products are available from the NPS All Wales Framework for Stationery and Copier Paper (NPS-CS-053-16) through the supplier call-off contract with Lyreco. As noted in Figure 6 and Table 10, there are products with PCR fibre paper range from 50% to 100%, at 80 gsm that also function well in printers, available. It is worth noting that the alternative paper is also cheaper than the budget realms.

[23] https://www.yell.com/biz/hallam-s-catering-equipment-ltd-milford-haven-1963466/
[24] https://www.simon-safety.co.uk/
[25] https://www.lyreco.com/webshop/ENEN/index.html

Figure 6: Example of 100% RC paper available

Positive actions to digitalise processes through digitalising systems means printing paper demand is declining in PCC. However, boxes of five realms per box of non-recycled content are evident in all services visited. Lyreco provide a number of options and the highest PCR content is below at 100%.

Steinbeis Recycled Classic Paper A4[26] *80gsm - Ream of 500 Product Code: 3.917.601* ***GBP 9.50 per Box*** *(5)1 Box = 5 unit(s)*

High quality recycled product

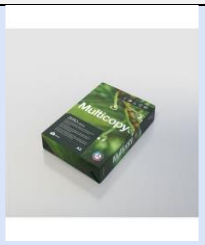
Ideal for high-volume printing

High-quality paper ranges in use, from 100gsm plus, with little or no RC, as noted above. This is an area for challenging about why this is needed. If it is absolutely essential to operations, then a more sustainable high content PCR fibre should be sought, for example for polling cards. Lyreco on the NPS call-off account, have may options for products with sustainable provenance, this also applies to other stationery, card, sticky notes, pads and folders.

Table 11: Price comparison of PCR Paper and other paper

Paper Sourced from NPS Framework Stationary Call off Contract			**Prices £ / 5 ream box**	**Price difference per box**	
A4	Now	Lyreco **General** Budget 80gsm	10.25	+0.75	
		Lyreco standard **General** 80gsm	11.00	+1.50	

[26] https://www.viking-direct.co.uk/en/steinbeis-a4-80gsm-printer-paper-p-3604347

	RC paper	Steinbeis **General** 80gsm 100% RC	9.50		
Paper Sourced from NPS Framework Stationary Call off Contract			**Price £ / ream**	**Price difference per ream**	
		Lyreco **General** Photocopy Budget Product Code 234.406	4.19 each	+0.62	
	RC Paper	Steinbeis 100% RC **General** Product Code: 8.974.747	3.57 each		
		Lyreco Zero Carbon-Neutral **Premium** Paper 80gsm Product code 9.891.554	6.69		

Stores in a number of locations were observed with palletised goods. When addressing any new orders, for all purchases (Highways, Property, Waste Services etc.) PCC should provide packaging requirements and regularly test suppliers on improving recycled fibre content in all packaging boxes, use of paper tape to secure box contents, rather than plastic. PCC should set out in PCC's specification to stop shrink-wrapping boxes and pallets and use greater than 70% PCR fibre content in boxes as the alternative. Wherever feasible, PCC should request suppliers to empty, take back boxes for re-use. PCC should discuss the option of securing a return scheme for pallet boxes and better ways to assure PCC of secured goods delivery without the need for shrink wrap.

5.5 Refillable containers

There are several other projects to consider, such as the potential to provide a select list of dose-it type cleaning products across all Council cleaning services to reduce consumption. Products are nearly always in plastic containers varying from 0.5L to 10L, refilling of those containers could

save both carbon miles and plastic usage. This is a complicated proposition and would be linked to a central store management approach or alternatively work directly with manufacturers, to delivery an exchange of return and refill.

5.6 Green waste

There is another opportunity to enable the green waste collected and paid for by PCC to be composted to be returned back into PCC through its contracts by specifying the compost for use in redevelopment capital works, new council housing or other landscaping works. Through discussions with the newly appointed Green Waste contractor, residents or Community Groups (such as allotments) may be enabled to buy back their green waste as compost. It would then provide an educational tool for the community to learn what the circular economy of resources can mean for them

RECOMMENDATION 9: Fully adopt the UK Plastics Pact approach into policy further eliminate plastic where it can be (e.g. plastic tubs, foam burger boxes, excessive use of any bin liners) and utilising WRAP information and research resources.

RECOMMENDATION 10: Create a Sustainable Procurement Policy to supplement the Climate Change Action Plan and target to reduce single-use plastic drinks bottles issued or sold by PCC to:

- 50% reduction compared to a baseline in 2019 by March 2021, increasing to
- 75% reduction by 2022.

RECOMMENDATION 11: Set minimum requirement of at least 30% recycled plastic to be contained in all hard-plastic products (including replacement recycling bins and boxes) purchased as part of a Sustainable Procurement Policy for PCC.

For single-use recycling collection bags, the RC sets a higher bar to target a minimum of 80% PRC for all plastic sacks, including off-framework black sacks in use in schools.

The targets for RC are generated from adopting those that have been tested and exist such as the greater than 30% RC adopted voluntarily in the UK Plastics Pact and by those that the suppliers can already supply such as higher RC content of polyethylene sacks or water bottles. The government are also considering other levers such as fiscal taxes on raw material content and the setting of staged mandatory targets. As these evolve PCC can stretch their targets to stimulate innovation in the supply chain.

RECOMMENDATION 12: That the plastic woven recycled bag specification is reconsidered to include recycled content, both in the weight and the weave, in readiness for replacement bag stocks. To refresh dialogue with national framework providers on any limitations they previously presented.

RECOMMENDATION 13: To review what re-use or repurpose role is there for boxes, caddies with broken handles or lids. Establish a 'new for old' bring back scheme with residents for replacement. Engage community volunteer groups to mend or use on litter picking and beach cleaning to separate recycling instead of using new plastic bags.

RECOMMENDATION 14: To review now what re-use or repurpose role is there for woven bags with a broken seam or base-handles or caddies with broken handles or lids. Establish a new for old bring back scheme, engage community volunteer groups to mend and use on litter picking and beach cleaning to separate recycling instead of using new plastic bags, or for weaving into 'Plarn', see Service Area Projects, Table 12.

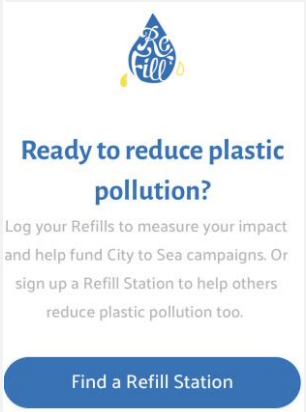
RECOMMENDATION 15: That all services buy the recycled paper only for printing, enforce the policy by working with Lyreco to make only 100% recycled A4 and A3 printer paper available for ordering on the Pembrokeshire account.

A final recommendation is in respect of public communications. PCC has developed a progressive agenda for climate change overall with significant energy schemes, biodiversity programmes and a Green Infrastructure Plan in place. Work and projects selected to continue from this report should be communicated to residents through direct and digital platforms to business and staff to showcase all that has and is planned to be achieved. A lack of presence in this regard understates the progressive projects completed or underway.

RECOMMENDATION 16: That a full communication campaign, delivered digitally and directly, is progressed to provide case studies, engage residents and business on what they can do and engage the wider Pembrokeshire communities, business and teams in this agenda and to stimulate further ideas and innovation.

Table 12: Sustainable procurement proposed projects

Service	Project	Project main objective	Considerations	Actions	Traffic Light
Highways	Cold Tarmac setting	Reduce plastic content and Tubs discarded. Save Money on materials, see Table 9. Reduce Cost of mixed skip disposal	Storage of Materials at Depot Potting of materials/ loading time of loose material Quality criteria of Materials for loose cold set tarmac to be comparable to bagged and tubbed material Calculation of current cost Trunk Road specification with WG may need retaining, and this issue requires highlighting to WG.	Confirm Price differential between lose and Establish Storage location in stores, Milford/ Profile volumes required What still must be purchased, (e.g. trunk roads) re-use for assisting handling of loose material, and recycle correctly either with the supplier or through separate plastic skips to waste contractor The time needed to load loose into tubs or directly onto the vehicles, is it very different? Savings made could be partly utilised to strengthen stores/ yard management helping other initiatives.	AMBER
	Surface-dressing Road Stone Sweepings	Re-use virgin aggregate materials otherwise left on the roadside Save money and virgin aggregate material resources	Loose chippings mechanically swept after new areas are surface dressed. Chipping piles are currently left in laybys across the County, unused or left for others. Materials to be centralised so that materials collected are re-used in next surfacing works	Confirm whether teams can take recyclable chippings back to the quarry The local quarry would need to partner as dust needs washing off chippings before re-use to sell back to the PCC. Estimated that up to 10% of annual usage (circa 4,000 Tonnes) could be recovered and recycled, and this requires surveying to confirm.	GREEN
Catering	Food packaging Kitchen packaging recycling	Reduce plastic use further in schools including foam containers	Moving to PLA (Bio-Plastic) products requires a recycling outlet, several postal/ courier schemes are in operation to recycle PLA effectively as there are limited Industrial Composters in the country. Are containers essential? Wrap Burgers in a recycled paper napkin as an alternative.	It is essential to establish a collection system to ensure the lower carbon material is recovered correctly. Price comparison exercise is needed where product replacement is made The market is well developed with catalogues of 'eco' products being available. It's proposed to establish the best price through a market test and mini-	AMBER

Service	Project	Project main objective	Considerations	Actions	Traffic Light
			Card packaging should consist of at least 70% post-consumer recycled (PCR) content (no direct food contact) If plastic is critical to food waste prevention, can it be made of recovered plastic at a minimum of 30%?	competition within the existing Framework, on a range of products.	
		Reduce plastic bottle consumption Control plastic RC in purchased drinks bottles.	Are existing water fountains suitable for bottle refills in schools and premises? Centralised grant applications are available for new water fountains Use of the national Refill App for staff and to widely publicise to communities  Other soft drinks suppliers are moving toward recycled plastic packaging, they are not (at the time	Investigate grants available for water refill stations (e.g. for schools: Investigate recycled plastic refill bottles for branding and providing to schools/ staff sale at outlets Where water is sold, source from bottled water companies that offer >50% RC (some now offer 100%) Distribute and advertise the Refill App to staff and citizens. Other soft drink suppliers can provide alternative packaging like cans, and glass. Glass recycling bins/ or banks would need to be made available on those sites to recover the material correctly	GREEN GREEN GREEN GREEN

Service	Project	Project main objective	Considerations	Actions	Traffic Light
			of this report) as progressed as bottled water companies.	Use contract management tools to incentivise suppliers to source RC (steel aluminium plastic glass) in all beverage containers	GREEN
		Reduce paper containers Increase RC in paper or card containers Reduce virgin paper use Increase RC in the paper	Food contaminations of card packaging Plastic lined card packaging (sandwich's Replace paper napkins with recycled unbleached napkins Consider switching standard blue kitchen roll to RC unbleached kitchen roll, can its use be reduced further? Ensure dispensers are in use to minimise losses.	Potential KPI would need to be measured; many waste collection businesses have onboard weighing to assist with this. % of packaging waste recycled (by mass) * Recycled waste segregated into separate streams on-site (e.g. paper, plastic, glass, metal) Cost comparison required for the change in paper and new dispensers may be needed	GREEN GREEN
Environment Services	Recycling Waste Collection Services & Grounds Maintenance	Reduce the use of single plastic bags Increase the RC of bags used for residual waste to optimum levels Repurpose damaged Woven sacks Make provision for RC in weights	Storage and ownership of rolls of sacks. Particularly those that have a commercial value to Trade. RC may affect performance, check the evidence and perform drop tests. Community group engagement or social business opportunity to make or use 'Plarn'. https://www.westerntelegraph.co.uk/news/16192041.how-to-make-plastic-yarn-mats-with-homeless-pembrokeshire/ The use of the woven sack performance is underway; this should be evaluated to understand what impacts, if any, RC has on UV or strength of the bags	Ensure adequate controls are in place at litter and maintenance distribution points for plastic sacks. Work with other local authorities on and NPS on increasing recycled plastic content specifications. Ask residents to bring old sacks in that need replacing, so there is a bring back scheme in place, new for old. Engage existing 'Plarn' user groups as to repurposing damaged woven sacks. Engage established litter picking and beach cleaning volunteers on using second had woven sacks to source separate plastic/ cans and glass.	GREEN RED AMBER GREEN GREEN

Service	Project	Project main objective	Considerations	Actions	Traffic Light
		and weave of recycling sacks	Savings on disposal costs to be clarified but if 50% of replacement is diverted from disposal, this can save 22.5 Tonnes.		
	Recycling & Waste Collection and Grounds Maintenance Services	To reduce the volume of plastic textiles disposed of in Personal Protective Equipment – Gloves High Visibility Jackets	Gloves are issued to staff several times per week partly due to the demands of the refuse collection service and partly due to the quality of the glove and an approach that they are considered a disposable item. Hi-Visibility Jackets are re-issued when the reflective strip is worn. There is currently an inconsistent application of old-for new returns. Materials could be re-used with community groups if laundered. Damaged and worn materials could be recycled in textile banks Stores do not have a digital stock management system in place linked to the financial system.	Review glove quality and issuing a policy, review other council's approach and pricing. An example is provided in Appendix D, noting summer and winter gloves are issued 1 per fortnight, the glove withstands washing. Price improvement is achieved. Work with volunteer litter pickers and beach cleaners to utilise cleaned PPE, rather than issuing new. Identify a location and instruction for supervisors to separate old PPE for recycling or re-use. Consider the cost and control benefits of a central stores system. Explore vending machines for PPE which can help control issuing and reduce losses with ID cards used to access.	AMBER GREEN GREEN RED AMBER
	Waste treatment	Re-use of green waste material post-treatment as a certified compost Demonstrating circular economy systems to	Material for green waste treatment, which converts the garden clippings into certified compost is currently owned by the contractor, once the waste is transferred to them. A new contract recently awarded presenting a new contract management opportunity. Opportunity to navigate a sell back scheme.	Discuss at Contract Award and Contract Management meetings options for residents, community groups and supplies to Council contracts, price points and any operational, logistical matters.	AMBER

Service	Project	Project main objective	Considerations	Actions	Traffic Light
		residents and contractors			
Property Maintenance Catering	Building Cleaning & Kitchen Cleaning	Re-use of Plastic Containers Reduce Plastic and volume of cleaning product	Consistency of product lists by manufacturers. Service user preferences Can they be refilled and returned by the manufacturer (not a retailer) or Can refill take place in PCC stores?	Assess the full volume of cleaning product purchases across the Council Services, how this is currently purchased (diversity of supply and materials). Test manufacturer's (e.g. Diversey, Clover, etc.) as to their appetite for a refill scheme. What is their approach to post-consumer plastic content in their product packaging?	RED
Property Construction	Construction Plastic	Increased recycled Plastic	Market development for Post-Consumer Plastic use in construction CIRIA hold the databases and case studies operated by WRAP UK	Evaluate supplier market for evidence of post-consumer plastic use in drainage pipes, facias, ground reinforcement materials and internal fit-out.	AMBER
	Sustainable Construction Wood	Increase local soft and hardwood sources, increase biodiversity, reduce construction impact – local materials, new jobs	Consider breath of opportunity, existing and new, managed and wild woodland across PCC estate. Consider collaboration options with other public estates (Health, NRW National Parks)	Develop an options appraisal and business case for a Sustainable Wood Management and sawmill in Pembrokeshire. Assess the scale of demand in County and the region. In parallel consider the benefits and issues of a Wood First policy in construction, the scale of demand for wood this could generate and its sources,	RED

6.0 Capturing discarded materials for re-use and recycling

A critical component to moving to more sustainable products is to ensure that the correct collection, reprocessing/ repurposing storage and treatment options are available. To ensure that re-usable materials captured and not relegated to the bottom of the waste hierarchy, and essential data is not lost that is required to measure performance.

Any public sector body with the ambition to become more sustainable requires a clear and easy-to-apply deposit, storage and collection scheme(s) for materials, such as source-separated internal office systems for dry recycling (e.g. plastics, paper, card, cans and food of all products purchased). Catering kitchens and customer areas should also reflect this, supported with a system for more extensive packaging collections for large plastic containers or newer biodegradable products, for example. To support suppliers to deliver re-use and recovery requirements set out in tenders requires recovery facilities at suitable locations (e.g. operational depots or construction sites).

Dry-recycling and food materials are noted as separated in County Hall offices. However, the WG intends to implement The Environment Act Wales (2016) with new regulations currently expected to come into force for all non-domestic premises which enforce a statutory requirement on all Council facilities, by October 2021. The Act states its intention for:

- The diversion of materials from disposal, towards high-quality recycling or recovery will help with the transition to more efficient use of resources derived from waste. Increased recycling and recovery of waste will help to decrease pressure on natural resources whilst also contributing to positive results for both the economy and the environment.
- Segregation by businesses and other waste producers such as the public sector ensures that clean, uncontaminated recyclable materials are separated before moving onto the next stage in the process. This will command higher prices in the recycling markets, and businesses that separate their wastes may find that they can reduce their costs of waste collection and disposal.[27]

The latest consultation suggested that the minimum materials to be set in the regulations separately collected re-use and recycling would be a minimum of plastics, paper, card, metals,

[27] Welsh Government (2016). Environment (Wales) Act 2016 Factsheet

wood and green waste and food. It would, therefore, be prudent for PCC to consider adopting this approach on all its premises, where it does not already exist. Further, most waste collection service providers generally offer a preferential price to collect dry recycling collections over residual collections. This does not work if the current contractor mixes materials on collection or only provides a Dry Mixed Recyclables (DMR) collection service. Further market development in this area for PCC is required to test providers for all Council services, including schools where the Education Authority sets a sustainability procurement policy for schools to adopt.

The drivers and limitations on the 'what material should I buy?', 'which is better for the environment?' and 'How can it be collected?' questions, are often answered by the recycling treatment infrastructure in place or treatment systems implemented. Alternative plastic-type materials (similar in appearance and performance) are described in WRAP Cymru's Public Sector Guidance on the Procurement of Plastics[28]. Before making changes to purchased goods, the buyers and procurers must know what is accepted, or otherwise, under current contracts. To successfully recover such materials, contractors themselves must understand where in their collection system they arrive.

- For example, for alternative takeaway plastic cutlery, that looks like plastic such as starch blends (PLA, PHA, PBS) and are described as 'biodegradable,' people may understandably assume this cutlery can go into food waste bins, be collected and successfully treated. However, food waste processing contracted to an Anaerobic Digestor system would recognise this material as 'contamination' and filter it out for landfill or waste to energy, because after maintenance cost, contamination is their highest operating cost.
- Similarly, this problem would occur at an open windrow composting facility that is driven by strict Publicly Available Standards (PAS) composting standards that must be met in order to sell on the bioproduct and or spread products to land. Similarly, these materials would not be recognised as a material that a dry recycling facility could successfully recover at his time. A replacement material that is clear what it is and would be accepted as a correct material is a wooden fork, spoon or knife, this though would need to be collected as a separate green waste collection material for (non-food) composting or chipped on-site with other grounds maintenance woody green waste (tree or hedge clipping etc.).

It is clearly a complex arena and waste collection, and waste acceptance details, are not yet widely shared or understood across the organisation. Within the office and depot environments, a network of trained service area Green/Zero Carbon/Recycling Champions could be established to share information and help all staff. Benefitting them to understand what can/cannot be recycled

[28] WRAP Cymru (2019). Public Sector Guidance on the Procurement of Plastics

what goes where, could also help with the broader recommendations for buying better and a greener procurement. It was observed that many staff are keen to help change and support this agenda overall and could prove an invaluable network to the Sustainability and Procurement teams when trained and equipped to do so.

RECOMMENDATION 17: Soft market test separate collections of dry mixed recyclables and food waste, discuss with both national and local providers, this may also stimulate community markets for materials, in readiness for the incoming regulations, to increase competitiveness and to help reduce costs. Completion of a business case to understand the costs of any new internal bins and the separate collections externally versus cost reduction of disposal would need evaluating for payback periods.

RECOMMENDATION 18: Have a clear corporatewide understanding of what materials can be successfully recovered through existing waste treatment contracts (the processing after collections), and as importantly what cannot, understand the gaps, establish how new providers/ markets are emerging.

Where waste treatment contracts are due to be renewed, ensure new contracts have contract change clauses that enable future negotiation on material changes that may need accommodating. So that an affordable level of flexibility is built-in and there is an obligation on the contractor to demonstrate continual improvement and development in this area.

RECOMMENDATION 19: Many service areas are unclear on what would be the right environmental and cost change. Set up and train an internal network of ambassadors or champions across the council to improve the quality of material collected that may also be supported to help train others and improve communication on the wider Climate Change Agenda.

RECOMMENDATION 20: The Education Directorate to work in conjunction with Procurement and Sustainability officers to devise a clear Sustainable Procurement policy, consider that schools are required to adopt such a policy, support schools and schools' services to deliver on the policy. Identify training needs, identify support needed to change buying behaviour patterns in general.

Appendix A: Demand Review and Specification Matrix

Step 2: Demand Review	**Reducing and re-using are the most effective routes to sustainability and cost reduction. Use the demand review to identify opportunities to eliminate or reduce the need for purchases and materials .**
Is there an opportunity to not buy some or all this at all? E.g. re-use into something else, or do without	
SRA Demand Review Pembrokeshire County Council Example; Consider replacement systems to reduce material use, specifying goods received must not be wrapped in plastic or nor polystyrene cushioned. Or no longer provide plastic cups at water points or stopping the provision of tea and coffee individually wrapped portions or sauce sachets, or replacing machines that deliver single use coffee cups automatically . Seek to eliminate from purchases the Plastics Pact items: •Disposable plastic cutlery •All polystyrene packaging •Cotton buds with plastic stems •Plastic stirrers •Plastic straws •Oxo-degradable plastic that breaks down to create microplastics •PVC packaging •Disposable plastic plates and bowls	"Lateral thinking" can reduce or eliminate the need for purchasing goods / products Have user requirements been considered? i.e. through engagement with community / users / suppliers as part of commissioning process. Their experience may well inform improvements / innovation in the specification Is there an opportunity not to buy this at all? - Could you do without? - Can existing assets be refurbished, repaired or upgraded? - Is this product already in use and could be shared with existing owner? Regular liaison with other buyers, public sector organisations and innovative suppliers will help stimulate new approaches.
Can you re-think the need? For Example: Consider the need for new furniture or carpet tiles during refurbishment or replacement (damage), consider instead often local businesses that operate 'repair, up-cycling and redesign' services for both goods and services , eliminating the requirement for new and can be more affordable.	It is also important to consider the implications of design decisions, as these may well have an implications with regard to raw materials, extraction and production in the supply chains that you will be accessing. Moving from product purchasing, ownership and disposal to being the recipient of a service offers whole life cost savings and environmental benefits. It becomes the supplier's interest to minimise materials and energy consumption and upkeep and disposal costs and maximise the product lifespan and upgradeability. Examples include: - Heating and cooling services: customer pays a fixed fee in return for a constant building temperature. Supplier invests in energy efficient equipment and insulation to minimise running costs. - Waste minimisation: customer pays a capped, annual waste disposal fee. To minimise disposal costs and maximise profit, contractor invests in waste segregation and recycling infrastructure, audits and training. - Carpet leasing: customer pays annual fee for flooring services. Contractor retains ownership of carpet and recovers and recycles worn or damaged tiles. - Print services: customer pays by print volume. Contractor owns multi-function printer / copiers, minimises paper usage and upgrades equipment as required. - Chemical management: contractor owns and manages lab reagents, solvents and developing chemicals and recovers after usage. This reduces operating cost and effluent charges.
Are you buying as little as possible? E.g. double check the quantities required for any contingencies and ensure that you buy the minimum amount possible, remember storage can be a significant cost to manage	
Check council-wide stock, does it have visibility, do you really need more, review just in time delivery options through stock control. Consider current issuing policies e.g. Personal Protective Clothing	
Have there been any technological advances / innovations that would offer you a better outcome? E.g. a new way of products being packaged or transported?	
Is there an improved production method/ucing waste materials or reduced harmful chemical content, new dispensing or refill services available	
Can you improve the efficiency of the purchasing process, e.g. electronic solutions and use of eTender Wales tools (more information on the Procurement Route Planner (http://prp.wales.gov.uk/)	
Check the enforcement of a no-print policy for tender documents and whether e-signatures can be/ are fully implemented	
Does your organisation have any policies / commitments to support environmental / socio-economic issues that you need to take into account when planning this purchase? References here should also cover those set out by the organisation's Climate Change Emergency and those policies emanating from a corresponding Climate Change Action Plan and Net Zero Carbon Working Group or relevant committee	For example •To consider CCS Procurement Policy Note – Procuring steel in major projects - Action Note 16/15 30 October 2015 •To include Community Benefits in your contracts. •To operate in an SME friendly way, using the SQuID approach to make prequalification easier and applying a proportionate approach to financial and quality requirements; Using appropriate lotting strategies; Encouraging Joint Bidding. •To procure products that are of fair trade origin (e.g. products certified by the Fairtrade Foundation as 'Fairtrade', or Rain Forest Alliance, etc. [see Public Procurement Reform - Factsheet No.7 : Green Public Procurement ec.europa.eu/internal_market/.../fact-sheet-07-environmental_en.pdf] •To check ethical issues are being properly managed in high risk sectors or industries (e.g. by referring to sources such as the Ethical Trading Initiative www.ethicaltrade.org; Supplier Ethical Data Exchange www.sedex.org.uk. The CIPS Ethical and Sustainable Procurement guidance and a range of resources to help)

MATERIAL SPECIFICATION MATRIX										
PRODUCT	AVOIDANCE	USE	COLLECTION	LEAKAGE	COMMON MATERIAL	WASTE MANAGEMENT REQUIREMENT	WASTE MANAGEMENT AVAILABILITY	SUBSTITUTION	MATERIAL TO BE SPECIFIED	NOTES
e.g Bleach Cleaning product	Do we need it?	Where is item intended to be used?	Where is waste likely to be collected?	What is the likelihood the item is to be littered?	Commonly used material for item	Disposal / collection destination requirement	Does your waste management contractor collect / process these materials?	Viable alternative materials	Refill Options? Recycled content?	
	Is it essential?	Where will the waste arise?					Are these materials processed in your County?		Recyclable?	
	Yes	In public café	Commercial waste	Unlikely	plastic	Anaerobic Digestion Food	Check Contract List	Check Supplier's options	xx% post-consumer recycled plastic content	
	No	In staff / school / student canteen	Household waste	Small chance	paper or card fibre	In-Vessel Composter food and green waste	Approved Supplier List	Check Emerging Market Options	xx% post-consumer recycled Fibre	
	Don't know	At desk	On the go	Likely	metal	Garden waste (normally open windrow)	Other Public Frameworks	Check WRAP reource Papers	must be easily recycled	
		At service delivery point ie home / hospital room		Very likely	wood	Commonly recycled dry materials paper card plastics metals, cans, glass				
		On the move		Almost certainly		Recycled, electrical goods, batteries, textiles, paint, hard plastics				
		Take home				Residual waste Treatment Energy from Waste				
		Service user use at home				Landfill				
		Event				Don't know				

Appendix B: Procurement Decision and Planning Toolkit

A procurement decision and planning toolkit has been developed that considers the key questions to ask across the seven procurement stages (pre-procurement, procurement planning, market testing or creation, procurement strategy, procurement documentation supplier selection and contract management. A summary of the Microsoft Excel toolkit is provided below.

PROCUREMENT DECISION TOOL

			Consider the following:	Yes	No
Stage 1	**Pre-procurement**	1a	*Do you need to procure (e.g. can single-use items be eliminated)?*	If the answer to any of these questions is yes, do you have the resources and capability to manage this in house? If not, a service provider may (e.g. furniture repair service) may need to be procured.	If the answer to all of these questions is no, a procurement may be needed. Proceed to Stage 2 - Procurement Planning.
			OR		
		1b	*Can assets be re-used or redeployed from elsewhere in the organisation?*		
			OR		
		1c	*Can assets be refurbished or repaired?*		
			OR		
		1d	*Can assets be shared with a third party?*		
				Record and track decisions, actions and outcomes in Tab 1 - Pre-procurement	
			Consider the following:	**Yes**	**No**
Stage 2	**Procurement Planning**	2a	*Can the required function of the product be delivered through an circular economy business model? (e.g. leasing, sharing, take-back scheme)*	If Yes, proceed to Stage 4 Procurement Strategy in which a circular business model will be explored and taken forward.	If No, and it is not possible to procure a circular economy business model, consider Q2b,Q2c, Q2d and Q2e.
		2b	*Can re-used or refurbished items be procured instead of new?*	If Yes, proceed to Stage 4 Procurement Strategy.	If No and only new products are suitable, consider Q2c,Q2d and Q2e.
		2c	*Can design for longevity be considered in new products?*	Consider these questions in parallel. If Yes, proceed to Stage 4 Procurement Strategy.	If No, proceed to Stage 4 Procurement Strategy and consider further opportunities to deliver CE outcomes.
		2d	*Can the product be designed for re-use?*		
		2e	*Are there any opportunities for the use of recycled and recyclable, re-used and re-usable, reclaimed and renewable/ sustainable materials and products?*		
		2f	*Can the products to be purchased be resource/energy efficient?*		
				Record and track decisions, actions and outcomes in Tab 2 - Procurement Planning	
			Consider the following:	**Yes**	**No**
Stage 3	**Market Testing/Market Creation**	3a	*Is there sufficient evidence of capacity in the market to deliver the circular economy outcomes identified in Stage 2 - Procurement Planning?*	If Yes, proceed to Stage 4 Procurement Strategy.	Undertake a proactive market testing exercise (i.e. industry day, call for expressions of interest) to determine if there is market capacity. Next, consider Q3b.
		3b	*Did the market testing activity confirm there is sufficient market capacity?*	If Yes, proceed to Stage 4 Procurement Strategy.	If No, consider work with market and suppliers to develop and innovate solutions and then consider Q3b.
		3b	*Has the market creation exercise been successful in generating market capacity/innovation?*	If Yes, proceed to Stage 4 Procurement Strategy.	Continue to monitor market for future developments in advance of the next procurement cycle.
				Record and track decisions, actions and outcomes in Tab 3 - Market Testing	

Stage 4	**Procurement Strategy/Business Case**		**Consider the following:**	**Yes**	**No**
		4a	*Does the procurement strategy include the circular economy outcomes that are desired?*		
		4b	*Does the procurement strategy outline how these can be achieved (e.g. through purchasing re-used/recyclable products)?*		
		4c	*Does the procurement strategy provide evidence that there is capacity in the market to deliver the required circular economy outcomes?*		
		4d	*Does the procurement strategy outline how the opportunities will be advertised and promoted to local businesses?*		
		4e	*Does the procurement strategy outline the options of contract type, lot structure, specification type etc, that will best ensure that the desired circular economy outcomes can be achieved?*		
				Record and track decisions, actions and outcomes in Tab 4 - Procurement Strategy	
Stage 5	**Procurement Documentation**		**Consider the following:**	**Yes**	**No**
		5a	*Are there existing circular economy standards relevant to this product category?*	Consider embedding the relevant circular economy standards in the product specification.	
		5b	*Are there Category Specific Circular Economy Specifications that are relevant to this product category?*	Consider embedding the relevant circular economy specifications in the product specification.	
				Record and track decisions, actions and outcomes in Tab 5 - Procurement Documentation	
Stage 6	**Supplier Selection**		**Consider the following:**	**Yes**	**No**
		6a	*Are there suggested evaluation criteria for the specific procurement category?*	Consider adopting suggested evaluation critiera in the evaluation methodology.	Develop appropriate evaluation criteria to enable robust assessment of circular economy approaches.
				Record and track decisions, actions and outcomes in Tab 6 - Supplier Selection	
Stage 7	**Contract Management**		**Consider the following:**	**Yes**	**No**
		7a	*Are there suggested examples of KPI's relevant to circular economy outcomes that can be used to monitor performance?*	Consider adopting suggested examples of contract management KPIs in contract.	Set relevant KPI's for regular review.
				Record and track decisions, actions and outcomes in Tab 7 - Contract Management	

Appendix C: Circular Economy Procurement Guidance

This Appendix provides practical guidance on embedding relevant requirements in Pembrokeshire County Council's specifications and other stages of the procurement cycle. There is practical guidance for a number of key procurement categories including: catering services; cleaning equipment and services; construction services; electronic and electrical equipment; and textiles.

The key stages of the procurement process include:

- Advertising. It is essential to consider the intended sustainability outcomes early and advertise these to the market clearly and in detail. There are a number of considerations for advertising for each category.
- Specification. The contract specification defines the scope of the services that Pembrokeshire County Council requires from a supplier. This could set out specific clauses about ensuring that the technical requirements, standards and performance of any service/product satisfies circular ambitions. There are a number of considerations for specification clauses for each category.
- Supplier selection. At the award stage, suppliers can be evaluated on the quality and circularity aspects of the tenders they submit using predetermined award criteria. Bidders when preparing a service delivery plan/ method statement can demonstrate where they are able to offer added value or elements that satisfy the circular ambitions of the specification. This could include qualitative (e.g. service approach and performance) as well environmental and/or social aspects. The quality criteria developed should reflect the services/products being delivered and the priorities and objectives. Those of greatest importance are likely to be attributed the highest weighting or percentage of the score. The weighting will guide bidders where to focus their efforts. Typically, quality criteria are linked to component parts of a service delivery plan or individual method statements for clarity and transparency to bidders. It is a very clear way to define what areas of the bid will contribute to which criteria. There are a number of considerations for selection and award criteria that can be used within a supplier selection process for each category.
- Contract management. Ongoing improvement throughout the contract can be achieved by building requirements into the contract and managing the contract appropriately once awarded. This approach is particularly useful where markets are developing quickly and the full performance requirement is not available to Pembrokeshire County Council at the time of

the procurement, thereby allowing the desired performance to be met over the term of the contract. There are a number of considerations for contract management clauses that can be used within for contract management for each category.

6.1 Catering services

Catering services will include a range of food and catering products and services. These may include:

- Catering consumables including food, dishwashing, packaging, paper towels and food preparation
- Catering equipment (for cooking, refrigeration, washing and hot beverage production)
- Catering equipment maintenance and repair
- Catering accessories

6.1.1 Pre-procurement

The decision to procure a catering services should reflect:

- Is there a need to procure anything? Can single use items be eliminated or catering equipment be re-used?
- Can the required function be delivered in a better way? The leasing of catering equipment is quite common and may be a feasible alternative to procuring the equipment. The lease should include maintenance and repair and it should encourage the lease company to re-use and refurbish equipment. This may be also achieved through rental or hiring equipment or a managed equipment service
- Pembrokeshire County Council's intended outcomes, risks and opportunities throughout the lifespan of the contract. Is there a clearly articulated policy focus on circular economy outcomes including repair, re-use and remanufacturing and the use of recycled content?
- Pembrokeshire County Council's budget and all relevant life cycle costs
- Any available frameworks
- The views of all relevant internal and external stakeholders.

6.1.2 Procurement process

1. Advertising

If sustainability is a core requirement and forms a key element of the subject matter of the contract, highlight this through the wording of the contract title, for example '*Sustainable Catering Services / Catering Equipment*'.

If suppliers are put on notice in the OJEU advertisement, they will be alerted to look at the contract performance requirements and take an early view on whether they can satisfy the requirements:

Pembrokeshire County Council has included obligations within the specification and contract conditions relating to social and environmental matters including the repair, re-use and remanufacturing of equipment which are relevant to the service to be delivered.

It is also good practice to notify suppliers early in the process of particular conditions of the contract and as such this should also be included in the Contract Notice rather than just in the specification. For example:

A requirement of this contract is that a minimum of xx% of total packaging weight derives from re-used and recycled content.

2. Specification

Sustainable catering service / catering equipment requirements need to be incorporated into the specification and must be relevant to the particular procurement. In order to ensure that suppliers provide the intended outcomes of Pembrokeshire County Council it may be appropriate to include the following in the tender:

Pembrokeshire County Council are committed to procuring sustainable products and services which facilitates the delivery of national policies, legislation and wider priorities, including: the Well-being of Future Generations (Wales) Act 2015; the Welsh Government Towards Zero Waste Strategy; Prosperity for All: A Low Carbon Wales; and circular economy outcomes where relevant and proportionate.

Bidders are therefore required to demonstrate in a method statement how they will extend the useful life of catering equipment supplier/used in the delivery of this service, through relevant re-use, repair, refurbishment or remanufacturing including through sub-contracting arrangements and innovative solutions.

This should include the key internal and external stakeholders involved and how you would seek to ensure cost effective and practical circular economy outcomes are delivered together with suggested performance measures which are capable of monitoring and reporting through contract management.

An ideal response would demonstrate:

- That equipment used is selected for its durability, as well as efficiency
- That equipment is regularly maintained and serviced (this could be a separate contract)
- That equipment used may include re-used, refurbished or remanufactured equipment that meets quality and safety standards
- That equipment used may be re-used or refurbished either for internal re-use or externally (for example though exchanges or auctions)
- That equipment should incorporate a significant percentage (e.g. 25% or more) of PCR content, wherever technically possible
- That catering accessories such as plates and cups are re-usable, durable and washable
- That cardboard packaging should be at least 70% PCR content and plastic packaging should consist of at least 25% PCR content.
- That packaging should be re-useable in a meaningful way, and be fully recyclable or compostable (certified to EN 13432) in the context of Pembrokeshire County Council's waste management system
- That equipment that is capable of cost-effective remanufacturing goes to a relevant contractor for this purpose and redeployment
- Mapping of internal and external stakeholders involved including sub-contractors, service users, facilities managers, sustainability lead and others
- Potential KPIs to include percentage of packaging that is re-used/re-usable and percentage of redundant equipment that is re-used/refurbished/remanufactured, with appropriate evidence from service records

An example below can be used in a specification to highlight the requirement to meet sustainability criteria within the catering equipment used. It is important to establish that the market for a particular product can meet these requirements before incorporating them.

In order to reduce waste generation, food and beverages must be served using cutlery, glassware, crockery and tablecloths which are re-usable, durable and washable. All products should incorporate a significant proportion (e.g. 25% or more) of post-consumer recycled content wherever technically possible.

Packaging waste in delivering food for the catering service:

- *Cardboard should be at least 70% post-consumer recycled content (other than where the cardboard makes direct food contact) and where plastic consist of at least 25% post-consumer recycled content, whilst adhering to UK food contact requirements*
- *Be re-useable in a meaningful way*
- *Be fully recyclable or compostable (certified to EN 13432) in the context of Pembrokeshire County Council's waste management system*

1. Supplier selection

These are some suggested selection and award criteria that can be used within a supplier selection process. It needs to be emphasised that they must be both proportionate and relevant and there must be a clear methodology to evaluate responses.

For a catering service contract the following could be included:

Please provide a copy of your Environmental Policy and highlight how it relates to the sustainable values and objectives of Pembrokeshire County Council.

When selecting suppliers, it is essential to assess the technical capabilities which will be required for the products or services being procured. Not only is this useful from Pembrokeshire County Council's point of view as suppliers that can clearly not meet the requirement will be eliminated, but it is also useful for the suppliers as they have a very clear understanding of how serious Pembrokeshire County Council are about sustainability and what will be essential for their submission to be successful. In order to assess the technical ability of a supplier to meet the requirements as part of the 'selection stage' the following could be included:

The contractor should demonstrate that they have delivered the minimum environmental standards required of the 'services', including the application of circular economy outcomes, in previous contracts similar in nature to that required by Pembrokeshire County Council, through relevant specialist capability.

For a services contract, to assess the capability of suppliers in enabling circular economy outcomes the following could be asked:

Detail your capabilities in delivering a catering service that includes the use of re-used, repaired, refurbished or remanufactured catering equipment, the re-use, repair or remanufacturing of redundant equipment or the supply and use of catering consumables and related packaging.

An ideal response would provide the following:

- Evidence of having used re-used or refurbished catering equipment in the delivery of a contract similar in nature to the service required

- Evidence of the re-use, regular maintenance and repair of equipment, refurbishment and where practical remanufacturing
- Evidence of the management of re-use, repair and remanufacturing within its supply chain including sub-contractors and links to SMEs, third sector or supported businesses involved
- Evidence of understanding the key circular economy opportunities and management requirements, including an example Management Plan

6.1.3 Contract management and performance

Ongoing improvement throughout the contract can be achieved by building requirements into the contract and managing the contract appropriately once awarded. This approach is particularly useful where markets are developing quickly and the full performance requirement is not available to Pembrokeshire County Council at the time of the procurement, thereby allowing the desired performance to be met over the term of the contract.

The Supplier shall in the performance of the Contract provide a report to Pembrokeshire County Council on a [quarterly] basis utilising the attached template[29] setting out the re-used proportion content of packaging used or the proportion of otherwise redundant equipment that is re-used, refurbished or remanufactured.

The supplier hereby agrees to increase the recycled and or re-used content of packaging by xx% after 12 months and by a further xx% after 24 months.

The supplier agrees to work with Pembrokeshire County Council to identify innovative methods that will lead to improved delivery of the sustainability objectives of the contract.

Monitoring the contract will be essential to ensure that the service quality, cost and sustainability objectives are achieved and that this can be evidenced.

6.2 Cleaning services

Cleaning may be undertaken by in-house personnel or the services may be part of an out-sourced cleaning or FM service. This will involve use of a range of cleaning equipment including:

- Cold and hot water pressure washers
- Sweepers
- Vacuums
- Buffers and polishers
- Carpet cleaners

[29] The template should be drawn up by Bangor University and shared with the potential suppliers as part of the procurement process.

- Chemical fogging equipment

6.2.1 Procurement planning

The decision to procure cleaning service equipment should reflect:

- Is there a need to procure anything? Are there options to re-use cleaning equipment from elsewhere? Have cleaning requirements been reviewed and managed according to risk? Have cleaning requirements been considered as a result of changes in estate, ICT requirements, hot-desking, 'clean desk' policy, home working and others?
- Can the required function be provided in an alternative way? For example, rather than producing equipment is a practical option leasing, hiring or renting, according to length and nature of requirement.
- Pembrokeshire County Council's intended outcomes, risks and opportunities throughout the lifespan of the contract. Is there a clearly articulated policy focus on circular economy outcomes including repair, re-use and remanufacturing and the use of recycled content?
- Pembrokeshire County Council's budget and all relevant life cycle costs
- Any available frameworks
- The views of all relevant internal and external stakeholders

6.2.2 Procurement process

Advertising

If sustainability is a core requirement and forms a key element of the subject matter of the contract, highlight this through the wording of the contract title, for example '*Sustainable Cleaning Services / Cleaning Equipment*'.

If suppliers are put on notice in the OJEU advertisement, they will be alerted to look at the contract performance requirements and take an early view on whether they can satisfy the requirements:

Pembrokeshire County Council has included obligations within the specification and contract conditions relating to social and environmental matters including the supply of quality controlled re-used cleaning equipment, and maintenance and repair of equipment which are relevant to the equipment / service to be delivered.

It is also good practice to notify suppliers early in the process of particular conditions of the contract and as such this should also be included in the Contract Notice rather than just in the specification. For example:

- *A requirement of this contract is that a minimum of xx% of total packaging weight derives from re-used and recycled content*
- *A requirement of this contract is that second hand or re-used cleaning equipment is provided with a warranty or certificate of assurance of quality*
- *A requirement of this contract is that the supplier of cleaning equipment will provide training to Pembrokeshire County Council's staff on maintenance and non-complex repair of equipment*

Specification

Sustainable cleaning service / cleaning equipment requirements need to be incorporated into the specification and must be relevant to the particular procurement. In order to ensure that suppliers provide the intended outcomes of Pembrokeshire County Council it may be appropriate to include the following in the tender:

Pembrokeshire County Council are committed to procuring sustainable products and services which facilitates the delivery of national policies, legislation and wider priorities, including: the Well-being of Future Generations (Wales) Act 2015; the Welsh Government Towards Zero Waste Strategy; Prosperity for All: A Low Carbon Wales; and circular economy outcomes where relevant and proportionate.

Bidders are therefore required to demonstrate in a method statement how they will:

- *Extend the useful life of cleaning equipment supplied / used in the delivery of this service and minimise environmental impacts through the re-use, repair and refurbishment of equipment and packaging including through sub-contracting arrangements and innovative solutions. This should include the key internal and external stakeholders involved and how you would seek to ensure cost effective and practical circular economy outcomes are delivered together with suggested performance measures which are capable of monitoring and reporting through contract management.*

An ideal response would demonstrate:

- That equipment used is selected for its durability, as well as efficiency
- That equipment is regularly maintained and serviced (this may be a separate contract)
- That equipment used may include re-used, refurbished or remanufactured equipment that meets quality and safety standards
- That equipment used may be re-used or refurbished either for internal re-use or externally (for example though exchanges or auctions)
- That equipment should incorporate a significant proportion (e.g. 25% or more) of post-consumer recycled content wherever technically possible

- That cardboard packaging should be at least 70% post-consumer recycled content and plastic packaging should consist of at least 25% post-consumer recycled content.
- That packaging should be re-useable in a meaningful way, and be fully recyclable or compostable (certified to EN 13432) in the context of Pembrokeshire County Council's waste management system (details to be provided separately)
- That equipment that is capable of cost-effective remanufacturing goes to a relevant contractor for this purpose and redeployment
- Mapping of internal and external stakeholders involved including sub-contractors, service users, facilities managers, sustainability lead and others
- Potential KPIs to include percentage of packaging that is re-used/re-usable and percentage of otherwise redundant equipment that is re-used or refurbished, maintenance, service and repair records

Supplier selection

These are some suggested selection and award criteria that can be used within a supplier selection process. It needs to be emphasised that they must be both proportionate and relevant and there must be a clear methodology to evaluate responses.

For a catering service contract the following could be included:

Please provide a copy of your Environmental Policy and highlight how it relates to the sustainable values and objectives of Pembrokeshire County Council.

When selecting suppliers, it is essential to assess the technical capabilities which will be required for the products or services being procured to meet your needs. Not only is this useful from the Pembrokeshire County Council's point of view as suppliers that can clearly not meet the requirement will be eliminated, but it is also useful for the suppliers as they have a very clear understanding of how serious Pembrokeshire County Council are about sustainability and what will be essential for their submission to be successful.

For a cleaning equipment contract, in order to assess the technical ability of a supplier to meet the requirements as part of the 'selection stage' the following could be included:

The contractor should demonstrate that they have delivered the minimum environmental standards required of the 'services', including the application of circular economy outcomes to cleaning equipment, in previous contracts similar in nature to that required by Pembrokeshire County Council, through relevant specialist capability.

For a services contract, in order to assess the capability of suppliers in enabling circular economy outcomes the following could be asked:

Detail your experience in delivering a cleaning service that includes the use of re-used, repaired, refurbished or remanufactured cleaning equipment and how you have extended the useful life of cleaning equipment used through re-use, maintenance and repair or refurbishment of equipment as well as packaging associated with cleaning products used.

An ideal response would provide the following:

- Evidence of having used re-used or refurbished cleaning equipment in the delivery of a contract similar in nature to the service required, which meet quality standards
- Evidence of the re-use, regular maintenance and repair of equipment, refurbishment and where practical remanufacturing
- Evidence of the management of re-use, repair and remanufacturing within its supply chain including sub-contractors and links to SMEs, third sector or supported businesses involved
- Evidence of approaches to take back and re-use of associated packaging
- Evidence of understanding the key circular economy opportunities and management requirements, including an example Management Plan

Contract management and performance

Ongoing improvement throughout the contract can be achieved by building requirements into the contract and managing the contract appropriately once awarded. This approach is particularly useful where markets are developing quickly and the full performance requirement is not available to Pembrokeshire County Council at the time of the procurement, thereby allowing the desired performance to be met over the term of the contract.

The Supplier shall in the performance of the Contract provide a report to Pembrokeshire County Council on a [quarterly] basis utilising the attached template[30] setting out the re-used proportion content of packaging used, the proportion of otherwise redundant equipment that is re-used, refurbished or remanufactured, the proportion of cleaning equipment used that is re-used and meets relevant quality standards.

The supplier hereby agrees to increase the recycled and or re-used content of packaging by xx% after 12 months and by a further xx% after 24 months.

[30] The template should be drawn up by Bangor University and shared with the potential suppliers as part of the procurement process.

The supplier agrees to work with Pembrokeshire County Council to identify innovative methods that will lead to improved delivery of the sustainability objectives of the contract.

The benefits of the contractual requirement must be quantifiable and measurable otherwise there is a risk that enforcement may be impossible.

Pembrokeshire County Council must also consider whether this requirement is core to the contract or a secondary issue, as any remedy for breach of these clauses may be difficult to quantify. In these circumstances a pre-agreed service credit or rebate would enable recompense for non-performance as termination of the contract would not be an option.

Efficient contract management not only ensures that the contract is performed according to the detailed requirements but also allows for continual improvement over the life of the contract, through relationship management, ongoing stakeholder engagement and providing a focus for innovation. This is particularly the case for remanufacturing where the market may initially be constrained but opportunities develop over time.

Monitoring the contract will be essential to ensure that the service quality, cost and sustainability objectives are achieved and that this can be evidenced.

6.3 Construction services

There are a number of re-use, repair and remanufacture principles relevant to construction including:

- Retaining existing buildings or infrastructure through refurbishment and repair
- Designing new buildings or infrastructure, refurbishment, or maintenance works for deconstruction and flexibility
- Procurement of products that are durable and facilitate disassembly, repair and refurbishment
- Remanufacture of building components or equipment
- Construction material reclamation and redeployment at end of the building's or infrastructure's life (i.e. re-used in its existing or modified size and shape)

6.3.1 Procurement planning

Demolition/refurbishment strip out

The decision to procure a demolition/refurbishment strip out contract (i.e. generating potential reclaimable material) should reflect:

- Are there materials of value that have potential for reclamation either for use on future developments or the wider market, rather than just maximising recycling?
- Where demolition/refurbishment strip out contract procurements are not a regular undertaking then a market intelligence gathering exercise should be undertaken before any procurement is started, this should include identifying and engaging with potential suppliers and relevant trade and sector bodies.
- Pembrokeshire County Council's intended outcomes, risks and opportunities throughout the lifespan of the contract. Is there a clearly articulated policy focus on circular economy outcomes including repair, re-use and remanufacturing and the use of recycled content?
- Pembrokeshire County Council's budget and all relevant life cycle costs
- Any available frameworks
- The views of all relevant internal and external stakeholders

New building, refurbishment design and construction service or maintenance contract

When procuring a new building, refurbishment design and construction service or maintenance contract should reflect:

- Designing for deconstruction, enabling the building to be efficiently dismantled at end of life. Allowing salvaged materials at the end of first life to be re-used, re-manufactured or recycled, recovering some of their inherent value. For example, considering:
  - Can building elements and components be maintained, upgraded or replaced without creating waste?
  - Can a Building Information Modelling (BIM) system or building handbook be used to record which and how elements/components/materials have been designed for disassembly?
  - Are the building elements/components/materials easily disassembled?
- Designing for flexibility, enabling significant changes to be made to the building during the course of its life. This can help to delay or avoid the building's obsolescence. For example, considering:
  - Is the design adaptable for a variety of purposes during its life span?
- Design to include reclaimed or redeployed building material. Does the development need to be constructed from all new materials, could some reclaimed or redeployed materials be used? In line with the waste hierarchy, can the following preferred approach be applied?
  - Use of reclaimed or redeployed materials
  - Use of materials with higher levels of recycled content
  - Use of primary materials

Reclaimed materials

Where reclaimed material procurements are not regular commissioned then a market intelligence gathering exercise should be undertaken before any procurement is started, this should include identifying and engaging with potential suppliers and relevant trade and sector bodies. Specific considerations should include:

- Early discussions with the reclaimed materials dealers, salvage experts or the demolition contractor (if demolition is required) will help to identify materials that are easily available at the right quality and quantity
- Reclaimed materials are usually obtained from different suppliers to new building products. Buyers will often need to set up relationships with new suppliers in the salvage trade
- Early design information helps in the sourcing of reclaimed materials. Lead times for ordering materials often need to be longer than for new off-the-shelf materials

- It can be helpful to identify one or more demolition projects near to the construction project, whose phasing is a little ahead of the construction programme. Reclaimed materials can then be selected and extracted from the demolition project as required
- Storage space either on site, nearby or else at the demolition site can be extremely helpful in matching up phasing
- Material specifications for the project need to be flexible enough to allow for the variations in reclaimed materials. Specifications should outline the essential performance properties required of a material but not over define the details
- It can be helpful to agree on a sample of the reclaimed material such as a brick or a length of board. This sample can be used to show clearly the quality that is expected in order to meet the design requirements. Sometimes a selection of samples will be needed to show a range of colours or states of wear that are acceptable

Design for remanufacture

Design for remanufacture of some building products/equipment at end of first life (cradle to cradle). Whilst there are some manufacturers providing these services on the market, it is currently relatively limited, therefore identifying opportunities can be difficult. To address this, the decision to procure a designer/ construction contractor should reflect:

- Can the design and construction team be required to gather market intelligence on building products where the manufacturer offers end of first life options such as take back schemes and remanufacturing into new products, closing the loop?

6.3.2 Advertising

If sustainability is a core requirement and forms a key element of the subject matter of the contract, highlight this through the wording of the contract title, for example:

- Sustainable demolition/strip out services
- Sustainable design/construction/building maintenance services

If suppliers are put on notice in the OJEU advertisement, they will be alerted to look at the contract performance requirements and take an early view on whether they can satisfy the requirements. Below is an example of wording that can be used for this purpose:

Pembrokeshire County Council has included obligations within the specification and contract conditions relating to social and environmental matters including the:

- *Use of the Demolition Protocol, Refurbishment Survey (or equivalent) with considered deconstruction in a way that maximising reclamation and re-usability of material which are relevant to the service to be delivered (delete if not applicable)*
- *Design for deconstruction and flexibility of the building which is relevant to the service to be delivered (delete if not applicable)*
- *Use of recycled aggregates, materials or building products which are relevant to the service to be delivered (delete if not applicable)*
- *Use of cradle to cradle building products that can be refurbished or remanufactured at end of first life, which are relevant to the service to be delivered (delete if not applicable)*

It is also good practice to notify suppliers early in the process of particular conditions of the contract and as such this should also be included in the Contract Notice rather than just in the specification. For example:

A requirement of this contract is that reclaimed or redeployed materials shall make up at least xx% of the total project materials as a percentage of the total value of materials used in construction activities.

This would typically be in inserted alongside any recycled content requirements.

6.3.3 Specification

Demolition/refurbishment strip out

Sustainable demolition/strip out service requirements need to be incorporated into the specification and must be relevant to the particular procurement.

In order to ensure that suppliers provide the intended outcomes of Pembrokeshire County Council it may be appropriate to include the following in the tender:

Where the demolition of a building/strip out of existing building components cannot be avoided, every effort should be made to either re-use materials on-site or salvage appropriate materials to enable their re-use or recycling off-site. Where materials cannot be salvaged whole, and where aggregate is required on-site, this demolished/stripped out material should be crushed on-site for re-use, with measures taken to minimise dust and noise.

Pre-demolition/strip out audit

Pembrokeshire County Council is committed to the principles of sustainable construction, to improve the environmental performance of its built environment projects. As part of this commitment, Pembrokeshire County Council aims to increase the efficiency of the use of material resources through:

- *Maximising the material reclaimed and re-used from the demolition of existing buildings/strip out prior to refurbishment*
- *Implementing Site Waste Management Plans to minimise waste generation and to maximise waste recovery, re-use and recycling in both the demolition and new build phases of projects (delete if no new build)*
- *Meet or exceed targets for the proportion of reclaimed or redeployed and recycled content used in a new building phase (delete if no new build)*

To assist in meeting these aims, an assessment is required of the potential for the materials contained within the existing building name to be re-used and recycled. The successful contractor will be required to use the Demolition Protocol/Refurbishment Survey as the basis for maximising resource efficiency in the project, by providing improved data on the types and quantities of materials available for re-use and recycling.

Key resource efficiency related outputs required from the pre-demolition audit include:

- *The production of a bill of quantities for all materials that are likely to be produced through the demolition of the buildings*
- *Assessment of the possible management options for materials generated during demolition, which would maximise reclamation and recycling*
- *Cost benefit analysis of managing demolition materials*
- *Risk assessment of the likely chemical and physical contamination within materials, and the impact of this on the re-use and recycling options for the material*
- *Calculation of the Demolition Recovery Index (DRI) for the project*

Design for deconstruction, flexibility, remanufacture or reclaimed/redeployed material

Design for deconstruction, flexibility, remanufacture or reclaimed/ redeployed material requirements need to be incorporated into the specification and must be relevant to the particular procurement. In order to ensure that suppliers provide the intended outcomes of Pembrokeshire County Council it may be appropriate to include the following in the tender:

As part of our commitment to reducing resource use in all of our developments and cutting the associated costs, we require all new build and refurbishment projects to pursue carbon efficiency. This in particular involves reducing the lifetime embodied carbon impact of the building by:

- *Designing for deconstruction, enabling the building to be efficiently dismantled at end of life. Allowing salvaged materials at the end of first life to be re-used, re-manufactured or recycled; recovering some of their inherent value (delete if not applicable)*

- *Designing for flexibility, enabling significant changes to be made to the building during the course of its life. This can help to delay or avoid the building's obsolescence (delete if not applicable)*
- *Including building products and materials where manufacturers operate cradle to cradle or closed loop remanufacturing schemes, where products at the end of their life can be returned and remanufactured into new product (delete if not applicable)*
- *Including reclaimed or redeployed materials, with comparable performance and availability and which are cost-neutral and represent 'Quick Wins'. The preferred prioritised material selection approach should be:*
  - *Use of reclaimed or redeployed materials*
  - *Use of materials with higher levels of recycled content (with products meeting relevant standards, such as ISO 14021)*
  - *Use of primary materials*
- *In accordance with the good practice, reclaimed or redeployed materials shall make up at least xx% of the total project materials as a percentage of the total value of materials used in construction activities (delete if not applicable)*

This will require:

- *The identification of the [5-10] most significant and cost-effective opportunities associated with the project, such as ensuring spaces are flexible for future use, dismantling the building at the end of its life (including major building elements e.g. structural frame, substructure) and building components to be re-used or resold (delete if not applicable)*
- *The identification of the [1-5] most significant and cost-effective cradle to cradle, closed loop recycling or remanufacturing opportunities associated with the project (delete if not applicable)*
- *The identification of the [1-5] most effective cost-neutral opportunities to increase the value of materials deriving from reclaimed or redeployed content, where technically and commercially viable, and that the targeted improvements made in the total reclaimed or redeployed content for the project have been quantified (delete if not applicable)*
- *Presentation of the impact of implementing the Design for Deconstruction, Flexibility, Remanufacture, Reclaimed/ Redeployed Material on the design, project cost and programme. Quantifying the financial and embodied carbon impacts made through these individual design changes, and report actions and outcomes as part of the Design for Deconstruction, Flexibility, Remanufacture, Reclaimed/ Redeployed Material Plan.*
- *Ensure any Deconstruction, Flexibility, Remanufacture elements are recorded in the BIM or building handbook, detailing their location, means of disassembly, re-use/recycling notes and any special considerations required.*

6.3.4 Supplier selection

When selecting suppliers, it is essential to assess the technical capabilities which will be required for the products or services being procured. Not only is this useful from the Pembrokeshire County Council's point of view as suppliers that can clearly not meet the requirement will be eliminated, but it is also useful for the suppliers as they have a very clear understanding of how serious Pembrokeshire County Council are about sustainability and what will be essential for their submission to be successful. These are some suggested selection and award criteria that can be used within a supplier selection process. It needs to be emphasised that they must be both proportionate and relevant and there must be a clear methodology to evaluate responses.

Demolition/refurbishment strip out

For a Demolition/Refurbishment strip out contract, the following could be included:

- *Please provide a copy of your Environmental Policy and highlight how it relates to the sustainable values and objectives of Pembrokeshire County Council*
- *Detail your experience in delivering a sustainable demolition service or sustainable refurbishment services that includes the use of the Demolition Protocol or refurbishment survey, or equivalent procedures, to identify and extract reclaimable building materials for re-use*

An ideal response would provide the following:

- Evidence of having used the Demolition Protocol in the delivery of a contract similar in nature to the service required
- Evidence of the reclamation, storage and management of building materials for re-use in the construction phase of the same development
- Evidence of the management of reclaimed or redeployed materials within its supply chain including sub-contractors and links to reclamation yards, third sector or sector or supported businesses involved, where material couldn't be re-used in the construction phase of the same development
- Evidence of understanding the key circular economy opportunities and management requirements, including an example Site Waste Management Plan

Design for deconstruction, flexibility, remanufacture or reclaimed/redeployed material

The PQQ could include:

As part of our commitment to reducing resource use in all of our developments and cutting the associated costs, we require all new build, refurbishment building maintenance projects to pursue

carbon efficiency. This in particular involves reducing the lifetime embodied carbon impact of the building by:

- *Designing for deconstruction, enabling the building to be efficiently dismantled at end of life. Allowing salvaged materials at the end of first life to be re-used, remanufactured or recycled; recovering some of their inherent value (delete if not applicable)*
- *Designing for flexibility, enabling significant changes to be made to the building during the course of its life. This can help to delay or avoid the building's obsolescence (delete if not applicable)*
- *Including building products and materials where manufacturers operate cradle to cradle or closed loop remanufacturing schemes, where products at the end of their life can be returned and remanufactured into new product (delete if not applicable)*
- *Including reclaimed or redeployed materials, with comparable performance and availability and which are cost-neutral and represent 'Quick Wins' (delete if not applicable)*

Detail your understanding and experience in achieving design solutions that:

- *Facilitate deconstruction and flexibility in buildings and evaluating the potential embodied carbon impact (delete if not applicable)*
- *Incorporate cradle to cradle products or reclaimed/redeployed material in buildings and evaluating the potential embodied carbon impact (delete if not applicable)*

An ideal response would provide the following details:

- Evidence of how the bidder has previously identified design opportunities for deconstruction, building flexibility, use of cradle to cradle or reclaimed/redeployed products (e.g. as part of BREEAM or CEEQUAL)
- Evidence of having developed a Design for Deconstruction, Flexibility, Remanufacture, Reclaimed/ Redeployed Material Plan (or similar) to inform clients of the options available to them to maximise the life-cycle financial and carbon savings

6.3.5 Contract management

Ongoing improvement throughout the contract can be achieved by building requirements into the contract and managing the contract appropriately once awarded.

Preliminaries

The contractor shall adopt the methodologies to facilitate the recovery of materials (in particular reclamation for re-use) from the demolition works. The contractor shall:

- *Determine the potential to reclaim and re-use materials for future applications in the permanent works or for other high value applications*
- *Establish targets for the recovery of demolition materials*
- *Set out a mechanism by which the recovery of demolition or strip out material can be monitored against the targets. The Contractor will be responsible for monitoring and reporting against the agreed targets*

Design for deconstruction, flexibility, remanufacture or reclaimed/ redeployed material

Main Construction Contract (general conditions)

This clause should be inserted into the main contract. It could form part of a broader requirement to work in accordance with the Employer's objectives for "resource efficiency" or "sustainable construction", provided the requirements are clearly defined (e.g. in the Project Brief).

The Contractor and supply chain shall carry out and complete the works in compliance with the Employer's objectives for carbon efficiency over the building's life cycle.

Preliminaries

These clauses set out the contractor's responsibilities for achieving and reporting on design for deconstruction and flexibility.

As part of our commitment to reducing resource use in all of our developments and cutting the associated costs, we require all new build, refurbishment and building maintenance projects to pursue carbon efficiency. This in particular involves reducing the lifetime embodied carbon impact of the building by:

- *Designing for deconstruction, enabling the building to be efficiently dismantled at end of life. Allowing salvaged materials at the end of first life to be re-used, re-manufactured or recycled; recovering some of their inherent value (delete if not applicable)*
- *Designing for flexibility, enabling significant changes to be made to the building during the course of its life. This can help to delay or avoid the building's obsolescence (delete if not applicable)*
- *Including building products and materials where manufacturers operate cradle to cradle or closed loop remanufacturing schemes, where products at the end of their life can be returned and remanufactured into new product (delete if not applicable)*
- *Including reclaimed or redeployed materials, with comparable performance and availability and which are cost-neutral and represent 'Quick Wins' (delete if not applicable)*

6.4 Electrical and electronic equipment

Information and communications technology (ICT) and electrical and electronic equipment (EEE) comprises a range of equipment and services, including:

- ICT Services
- Computers (e.g. desktops, workstations, cloud computing, mobile devices and tablets)
- Network equipment
- Photocopiers and multi-functional devices
- Desk phones and mobile phones
- Appliances / white goods (e.g. fridge-freezers, washing machines and dishwashers, microwaves, kettles, toasters)
- Accessories and consumables (e.g. printer cartridges)

6.4.1 Procurement planning

The decision to procure ICT/EEE products should reflect:

- Life extension through repair and upgrade, to avoid procurement
- Procurement of (or even obtaining free of charge) re-used / pre-owned equipment. This should be at a lower cost than new, although care has to be taken to obtain suitable certifications (e.g. on data cleansing) and warranties
- Managed services (where provision of the assets is part of the arrangement) or leasing of the EEE. Any such arrangement should include maintenance and repair, and there is the opportunity to encourage the lease company to re-use, refurbish and repair ICT
- Pembrokeshire County Council's intended outcomes, risks and opportunities throughout the lifespan of the contract. Is there a clearly articulated policy focus on circular economy outcomes including repair, re-use and remanufacturing and the use of recycled content?
- Pembrokeshire County Council's budget and all relevant life cycle costs
- Any available frameworks
- The views of all relevant internal and external stakeholders

6.4.2 Advertising

If sustainability is a core requirement and forms a key element of the subject matter of the contract, highlight this through the wording of the contract title, for example 'Sustainable ICT Services / ICT Equipment'.

If suppliers are put on notice in the advertisement, they will be alerted to look at the contract performance requirements and take an early view on whether they can satisfy the requirements. Below is an example of wording that can be used for this purpose:

Pembrokeshire County Council has included obligations within the specification and contract conditions relating to social and environmental matters including the durability, repair/refurbishment, re-use and remanufacturing of equipment which are relevant to the service to be delivered.

It is also good practice to notify suppliers early in the process of particular conditions of the contract and as such this should also be included in the Contract Notice rather than just in the specification. For example:

A requirement of this contract is that a minimum of xx% of total packaging weight derives from re-used and recycled content.

6.4.3 Specification

Sustainable ICT/EEE requirements need to be incorporated into the specification and must be relevant to the particular procurement. In order to ensure that suppliers provide the intended outcomes of Pembrokeshire County Council it may be appropriate to include the following in the tender:

Pembrokeshire County Council are committed to sustainable ICT services/equipment which facilitates the delivery of national policies, legislation and wider priorities, including: the Well-being of Future Generations (Wales) Act 2015; the Welsh Government Towards Zero Waste Strategy; Prosperity for All: A Low Carbon Wales; and circular economy outcomes where relevant and proportionate.

Bidders are therefore required to demonstrate in a method statement how they will extend the useful life of ICT equipment supplied/used in the delivery of this service, through relevant durability, repairability and upgradability features of the equipment, and through repair, refurbishment, remanufacturing and re-use, during or after the contract period. This may include lease arrangements, sub-contracting arrangements, the supply of remanufactured product and other innovative solutions. This should include the key internal and external stakeholders involved and how you would seek to ensure cost effective and practical circular economy outcomes are delivered together with suggested performance measures which are capable of monitoring and reporting through contract management.

An ideal response would demonstrate:

- That the EEE meets the minimum technical specifications
- The durability, repairability and upgradeability of the equipment
- How equipment will be maintained and serviced (this may be under a separate contract)

- Where equipment includes re-used, refurbished or remanufactured whole items or components, and that these meet quality and safety standards and are properly certified as appropriate
- That, where possible, equipment will be re-used after being refurbished/data-destruction, during and/or after the contract has expired, either for internal re-use or externally (for example used on other contracts or sold)
- That equipment, at the end of its useful life, that is capable of cost-effective remanufacturing goes to a relevant contractor for this purpose and thereafter is redeployed/sold
- That cardboard packaging should be at least 70% post-consumer recycled content and plastic packaging should consist of at least 25% post-consumer recycled content.
- That packaging should be re-useable in a meaningful way, and be fully recyclable or compostable (certified to EN 13432) in the context of Pembrokeshire County Council's waste management system (details to be provided separately)
- Potential KPIs to include the expected useful life of the equipment under the contract (in months) and extended by upgrade and maintenance where appropriate before replacement is required. Evidence to be provided in terms of percentage of redundant equipment from the contract that is re-used/refurbished/remanufactured, rather than recycled as WEEE, with appropriate evidence from service records and percentage of product packaging that is re-used/re-usable

The example specifications below can be used to highlight the particular sustainability requirements, considering the EU Green Public Procurement (GPP) Requirements and other criteria including Government Buying Standards (GBS), Blue Angel and the Electronic Product Environmental Assessment Tool (EPEAT). It is important to establish that the market for a particular product can meet these requirements before incorporating them.

Warranty and service agreements (including buying re-used EEE)

The tenderer shall provide a minimum three-year warranty for new equipment effective from delivery of the product. This warranty shall cover repair or replacement and include a service agreement with a pick-up and return option. The warranty shall guarantee that the goods are in conformity with the contract specifications at no additional cost. It shall cover battery defects.

Pre-owned, refurbished and remanufactured EEE should be supplied with an appropriate warranty and must have been supplied by a PAS141 certified company.

Verification: A copy of the warranty and service agreement shall be provided by the tenderer. They shall provide a declaration that they cover the conformity of the goods with the contract

specifications, including all indicated usage. Where refurbished or remanufactured, a PAS141 certificate should be provided for the company undertaking the preparation for re-use.

For mobile phones, the supplier should provide handset-specific ratings using the Vodafone/O2/Orange Eco-Rating scheme or an equivalent to allow handset comparisons.

Recycled and re-used content

Cardboard packaging should be at least 70% post-consumer recycled content and plastic packaging should consist of at least 25% post-consumer recycled content. The packaging should be re-useable in a meaningful way and be fully recyclable or compostable (certified to EN 13432) in the context of Pembrokeshire County Council's waste management system (details to be provided separately).

The tenderer should indicate the percentage by weight of recycled content and/or refurbished and re-used components in the EEE.

Verification: Suppliers must provide documentation confirming the percentage by weight of recycled, refurbished and re-used content in the final item and its packaging.

Durability/longevity

All products should be provided with clear and concise hardcopy user manuals, including appropriate Quick Start Guides and trouble-shooting information, and telephone/online support.

Verification: Example manuals, telephone helpline numbers and web links.

EEE should be designed to be durable mechanically (e.g. for laptops; hinges, screens, keyboards and connector blocks e.g. for fridge-freezers; compressors, door hinges, shelves and trays etc.) and electrically/electronically to avoid failure in use (e.g. printed circuit boards, screens, backlights).

All Printed Circuit Boards to comply with IPC610E and IPC-J-STD-001 concerning PCB build quality.

Verification: Manufacturers declaration and supporting test information; preferably from an independent laboratory.

Notebook/laptop computer drives should be tested and verified to meet at least one of the following requirements:

- *The HDD drive shall withstand a half sine wave shock of 400 G (operating) and 900 G (non-operating) for 2 milliseconds without damage to data or operation of the drive*
- *The HDD drive head should retract from the disc surface in less than or equal to 300 milliseconds upon detection of the notebook having been dropped*

- *A solid-state storage drive technology, such as SSD or eMMC, is used*

Verification: The applicant shall provide a specification for the drive or drives integrated into the product.

For ICT equipment and 'smart devices' (i.e. those with significant processing capacity/internet capability), upgrading of key components must be possible, as a minimum in regard to memory (RAM and drives) and processing speed, by a professional repair service provider.

Verification: Manufacturer's declaration.

Rechargeable batteries shall have an endurance greater than 300 cycles (with 80% capacity retention). The minimum battery life in hours to be set according to Pembrokeshire County Council's requirements.

Verification: The tenderer shall provide a test report for the battery cells or packs showing compliance according to the IEC EN 61960 'endurance in cycles' test carried out at 250C and at a rate of either 0.2 It A or 0.5 It A (accelerated test procedure). Partial charging may be used to comply as long as the software is factory installed as the default setting and the and the tender requirements on battery life are met at the partial changing level complying with the cycle requirement.

Repair and availability of spare parts

Basic fault diagnostics advice to be available in the manufacturer's instruction booklet and online.

Machine repair manual and exploded parts diagrams to be available on the brand or manufacturer's website (free of charge).

The following components of equipment, if applicable to the equipment, shall be easily accessible and replaceable by the use of universal tools (i.e. widely used commercially available tools as screwdriver, spatula, plier, or tweezers): HDD/SSD, memory, rechargeable battery, screens/displays and backlight/s, power and control circuit boards, audio speakers, cooling fans, heating elements (e.g. washing machines), thermostats, stands/mounts/feet, catches, hinges, motors (e.g. washing machines), compressors (e.g. fridges), seals, moving mechanisms (e.g. paper feeds in copiers), user interfaces (e.g. keyboards, mouse pads) and electrical connectors/assemblies.

The tenderer shall provide clear disassembly and repair instructions (e.g. hard or electronic copy, video) to enable a non-destructive disassembly of products for the purpose of replacing key components.

Verification: A manual shall be provided by the tenderer which shall include an exploded diagram of the device illustrating the parts that can be accessed and replaced. It shall also be confirmed which parts are covered by service agreements under the guarantee.

The tenderer shall guarantee the availability of spare parts, including as a minimum those identified above, for at least five years after the item ceases to be manufactured. Parts with improved specifications shall be backwardly compatible.

All parts should be clearly listed on the manufacturer's website with relevant pricing and information on parts stockists. Spare parts and sub-assemblies should be reasonably priced to facilitate repair outside of warranty.

Verification: The tenderer shall provide a declaration concerning the availability of spare parts and their cost and that backwardly compatible spare parts, including rechargeable batteries (if applicable), will be made available to Pembrokeshire County Council or through a service provider.

Rechargeable batteries shall not be glued or soldered into portable products. Simple instructions on how the rechargeable battery packs are to be removed shall be marked on the base cover of the product or provided in the user instructions. The rechargeable battery shall be easy to extract and replace by a professional repair service provider.

Verification: The tenderer shall provide photographic evidence of how the battery is installed in the product, the steps required to remove and cover markings. A copy of relevant user instructions shall also be provided. Pembrokeshire County Council reserves the right to visually inspect a random selection of supplied products.

Imaging equipment must accept remanufactured toner and/or ink cartridges. Devices and practices that would prevent re-use of toner and/or ink cartridge (i.e. anti-reutilisation devices/ practices) should not be present or applied. Toner cartridges must also be refillable by the user. Imaging equipment must also accept paper containing recycled fibres that meets the requirements of EN12281.

Verification: The tenderer shall provide proof that such cartridges and paper have been tested in the device and shown to function adequately in the equipment.

Re-use and recycling

Tenderers shall provide a re-use and recycling service for equipment that has reached the end of its service life under the contract or otherwise become redundant. The tenderer shall demonstrate how they will extend the service life of the equipment through refurbishment (e.g. for ICT equipment by sanitising data storage, repair/servicing and then supplying it for re-use).

For redundant equipment, a minimum re-use target of xx% (by number of units and after any refurbishment) of the provided equipment is to be met.

Equipment that is not possible to re-use shall be delivered to permitted recycling facilities, so it is recycled in full compliance with the requirements in Annex VII of the WEEE Directive.

90% or greater by weight of materials and components shall be recyclable or re-usable within the current infrastructure and using demonstrated technologies.

Verification: The successful tenderer shall provide a report on the status of the equipment collected once a year to confirm compliance. The report shall identify the proportion of items re-used or recycled and provide certificates verifying the proper treatment according to the WEEE Directive of the equipment that could not be re-used.

In relation to printers/copiers/MFDs, tenderers shall provide a toner/ink cartridge take-back and refill/remanufacture service as part of the contract. Remanufactured cartridges must meet the standards of UK Cartridge Remanufacturers Association Quality Mark.

Verification: Declaration of conformity with the take-back requirement and a certificate from the UK CRA.

Plastic parts with a mass of over 50 grams shall not contain moulded-in or glued-on metal parts or parts of different polymers, unless they can be removed easily with commonly available tools at end of life. In this event, disassembly instructions shall show how to remove them.

Verification: The tenderer shall detail the tools required to remove any plastic parts containing metal inserts. Visual evidence shall be provided to support compliance.

The presence of paints, coating and flame retardants and their synergists and additives shall not significantly impact upon the recyclability of the plastic when tested according to ISO 180.

Verification: The tenderer shall provide valid mechanical/physical test reports carried out according to ISO 180 or equivalent. Third party test reports obtained from plastics recyclers, resin manufacturers or independent pilot tests shall be accepted.

Plastic parts with a mass greater than 50 g shall be marked in accordance with ISO 11469 and ISO 1043-1 or equivalent. Printed wiring boards, extruded plastics and plastics in the display unit of monitors are exempted.

Verification: The tenderer shall identify the plastic parts by their weight, their polymer composition, and their ISO 11469 and ISO 1043, or equivalent, markings. The dimension and position of the marking shall be visually illustrated.

Packaging must be at least 90% recyclable or compostable (to BS EN 13432) under in-vessel conditions.

Verification: The tenderer shall provide a declaration and relevant test certificates.

6.4.4 Supplier selection

These are some suggested selection and award criteria that can be used within a supplier selection process. It is important that they are both proportionate and relevant and there must be a clear methodology to evaluate responses.

For ICT/EEE contracts extra points could be awarded according to:

- *The percentage by weight of recycled, refurbished, remanufactured and/or re-used materials and components in the final item of equipment*
- *Each additional year of warranty and service agreement offered that is more than the minimum technical specification*
- *Demonstration of overall product life and number of years' operation in accelerated testing without failure*
- *Durability tests carried out on circuit boards and components according to IEC 60068 standards: e.g. EN 60068-2-6:2008 (environmental testing Part 2-6: Test Fc: Vibration (sinusoidal)) and EN 60068-2-64 (environmental testing Part 2-64: Test Fh: Vibration, broadband random) for vibration resistance for circuit boards. The tests applicable shall be specified in the ITT to reflect the conditions of use defined for the product*
- *Battery endurance (of portable devices) greater than 500 cycles (with 80% capacity retention)*
- *Other durability features such as IP54 or above rating of keyboards, touchpads and displays*
- *Provision of a 'dismantling test report' recording and providing a detailed description of the dismantling sequence, extraction steps and timing for the target parts and components. The disassembly test shall be carried out by a specialized recycling firm that is a permitted treatment operation in accordance with Article 23 of the Waste Framework Directive*
- *A higher percentage of re-use of redundant equipment than that set out in the technical specifications*
- *The supplier's Environmental Policy and how it relates to the sustainability values and objectives of Pembrokeshire County Council*

When selecting suppliers it is essential to assess the technical capabilities which will be required for the products or services being procured. Not only is this useful from the Pembrokeshire County Council's point of view as suppliers that can clearly not meet the requirement will be eliminated, but it is also useful for the suppliers as they have a very clear understanding of how serious Pembrokeshire County Council are about sustainability and what will be essential for their submission to be successful.

In order to assess the technical ability of a supplier to meet the requirements as part of the 'selection stage' the following could be included:

The contractor should demonstrate that they have delivered the minimum environmental standards required of the 'services', including the application of circular economy outcomes, in previous contracts similar in nature to that required by Pembrokeshire County Council, through relevant specialist capability.

For a services contract, to assess the capability of suppliers in enabling circular economy outcomes the following could be included:

Detail your experience in delivering an ICT service that includes the use of re-used, repaired, refurbished or remanufactured equipment or the repair, re-use or remanufacturing of redundant equipment, packaging and accessories used.

An ideal response would provide the following:

- Evidence of having used pre-owned, refurbished or remanufactured equipment in the delivery of a contract similar in nature to the service required
- Evidence of the re-use, regular maintenance and repair/refurbishment of equipment, and where practical remanufacturing
- Evidence of the management of re-use, repair and remanufacturing within its supply chain including sub-contractors and links to SMEs, third sector or supported businesses involved
- Evidence of a focus on durability, longevity in service, and end-of-life options to optimise re-use, repair and remanufacture
- Evidence of application of relevant standards (e.g. Government Buying Standards, PAS141) and relevant eco label criteria (e.g. the EU Ecolabel)
- Evidence of adoption of lean manufacturing processes in the supply chain
- Evidence of analysis of carbon impacts of differing manufacturing options in the supply chain
- Evidence of an in-use assessment tool or methodology to identify interventions that would limit equipment damage and extend the life of in-use furniture

6.4.5 Contract management

Ongoing improvement throughout the contract can be achieved by building requirements into the contract and managing the contract appropriately once awarded. This approach is particularly useful where markets are developing quickly and the full performance requirement is not available to Pembrokeshire County Council at the time of the procurement, thereby allowing the desired performance to be met over the term of the contract.

The supplier shall in the performance of the Contract provide a report to Pembrokeshire County Council on a [quarterly] basis utilising the attached template[31] setting out the re-used proportion content of packaging used or the proportion of otherwise redundant equipment that is re-used, refurbished or remanufactured.

The supplier hereby agrees to increase the proportion of otherwise redundant equipment that is re-used, refurbished or remanufactured by xx% after 12 months and by a further xx% after 24 months.

The supplier agrees to work with Pembrokeshire County Council to identify innovative methods that will lead to improved delivery of the sustainability objectives of the contract.

The benefits of the contractual requirement must be quantifiable and measurable otherwise there is a risk that enforcement may be impossible.

Pembrokeshire County Council must also consider whether this requirement is core to the contract or a secondary issue, as any remedy for breach of these clauses may be difficult to quantify. In these circumstances a pre-agreed service credit or rebate would enable recompense for non-performance as termination of the contract would not be an option.

Efficient contract management not only ensures that the contract is performed according to the detailed requirements but also allows for continual improvement over the life of the contract, through relationship management, ongoing stakeholder engagement and providing a focus for innovation. This is particularly the case for remanufacturing where the market may initially be constrained but opportunities develop over time.

Monitoring the contract will be essential to ensure that the service quality, cost and sustainability objectives are achieved and that this can be evidenced.

6.5 Flooring

Flooring could include carpeting, vinyl, rubber, linoleum and wooden. The environmental impacts of producing, using and disposing of flooring are substantial, including energy, material, water, and waste impacts with much going to landfill. Floor finishes are a significant element of a building and contribute around 12% towards a building's environmental impact.

6.5.1 Procurement planning

Consider first:

[31] The template should be drawn up by Bangor University and shared with the potential suppliers as part of the procurement process.

- Is there a need to procure anything – is there potential to re-use in refurbishment? Are there options to re-use or extend useful life of flooring products?
- Can the required function be provided in an alternative way? For example, rather than procuring carpets is a practical alternative to utilise a lease model for carpet tiles?
- Pembrokeshire County Council's intended outcomes, risks and opportunities throughout the lifespan of the contract. Is there a clearly articulated policy focus on circular economy outcomes including repair, re-use and remanufacturing and the use of recycled content?
- Pembrokeshire County Council's budget and all relevant life cycle costs
- Any available frameworks
- The views of all relevant internal and external stakeholders

6.5.2 Advertising

If sustainability is a core requirement and forms a key element of the subject matter of the contract, highlight this through the wording of the contract title, for example 'Sustainable Flooring Solutions / Flooring Products'.

If suppliers are put on notice in the OJEU advertisement, they will be alerted to look at the contract performance requirements and take an early view on whether they can satisfy the requirements. Below is an example of wording that can be used for this purpose:

Pembrokeshire County Council has included obligations within the specification and contract conditions relating to social and environmental matters including the durability, maintenance, refurbishment, re-use and end of life recycling of flooring which are relevant to the service to be delivered.

It is also good practice to notify suppliers early in the process of particular conditions of the contract and as such this should also be included in the Contract Notice rather than just in the specification. For example:

A requirement of this contract is that a minimum of xx% of carpet tiles supplied are derived from re-used and remanufactured content.

6.5.3 Specification

Sustainable flooring service/flooring products requirements need to be incorporated into the specification and must be relevant to the particular procurement. In order to ensure that suppliers provide the intended outcomes of Pembrokeshire County Council it may be appropriate to include the following in the tender:

We are committed to sustainable flooring which facilitates the delivery of national policies, legislation and wider priorities, including: the Well-being of Future Generations (Wales) Act 2015; the Welsh Government Towards Zero Waste Strategy; Prosperity for All: A Low Carbon Wales; and circular economy outcomes where relevant and proportionate.

Bidders are therefore required to demonstrate in a method statement how they will extend the useful life of flooring supplied, through relevant durability, repair, re-use, refurbishment or remanufacturing including through sub-contracting arrangements and innovative solutions. This should include the key internal and external stakeholders involved and how you would seek to ensure cost effective and practical circular economy outcomes are delivered together with suggested performance measures which are capable of monitoring and reporting through contract management.

Included below are example specifications which can be used to highlight the requirement to meet sustainability criteria for either flooring products or flooring services. It is important to establish that the market for a particular product can meet these requirements before incorporating them.

Flooring service provision

Detail your understanding, experience and achievements in:

- *Cost-effectively providing flooring services which maximises, where practical, the durability of flooring and minimises the use of materials, resources and reducing the whole life costs of flooring service delivery*
- *Maximising inclusion of recycled content, the re-use and the repair, refurbishment and remanufacturing of flooring at the end of life*
- *Working with third sector organisations to enhance re-use of flooring.*

Verification: the supplier should provide evidence of experience in delivering these outcomes through contracts.

Warranty and service agreements

The tenderer shall provide a minimum xx year warranty for new flooring products effective from delivery of the product. Refurbished and remanufactured products should be supplied with the same warranty.

This warranty shall cover repair or replacement and include a service agreement with a pick-up and return option. The warranty shall guarantee that the goods are in conformity with the contract specifications at no additional cost.

Verification: A copy of the warranty and service agreement shall be provided by the tenderer. They shall provide a declaration that they cover the conformity of the goods with the contract specifications, including all indicated usage.

XYZ public body is committed to sustainable flooring including the application of circular economy outcomes where relevant and proportionate while enabling SMEs, third sector and supported businesses to compete for contracts. Bidders are therefore required to demonstrate in a method statement how they will extend the useful life of flooring supplied, through relevant durability, repair, re-use including through sub-contracting arrangements and innovative solutions. This should include the key internal and external stakeholders involved and how you would seek to ensure cost effective and practical circular economy outcomes are delivered together with suggested performance measures which are capable of monitoring and reporting through contract management.

Specific requirements for carpet tiles re-use may include:

Carpet tile re-use specification clause

- *Carpet tile re-use specification clause*
- *Carpet tiles to be uplifted by the removal contractor at the earliest possible stage in the refurbishment process to ensure that they stay clean and uncontaminated*
- *Carpet removal contractor must supply pallets and shrink wrap*
- *Pallets must be in good condition*
- *Full carpet tiles should be stacked 4 tiles per layer to a maximum height of 120 layers or 1. 2m. This is approximately 480 tiles per pallet*
- *Every 40 layers a single full tile to be placed in the centre of the stack overlapping each of the four piles to lock in the separate stack*
- *Tiles must be shrink wrapped securely to the pallet to ensure they do not move during transport*
- *Off cuts from the installation process should be placed in bulk bags on pallets ready for collection*

Broadloom carpets specification clause

- *Carpet removal contractor to contact the recycler in the project planning stages to:*
- *Establish suitability of the carpet for the recycling process. Some recycling organisations may require a small sample of the carpet to be sent to them for testing, others may only require photographs of the carpet*
- *Agree best collection container for the carpet*
- *If carpets are rolled when uplifted, you should ensure that there is no debris or contamination in the rolls*
- *Uplifted carpet should be kept out of the general waste stream and in a separate container on site*
- *Carpet to be kept dry for shipping and processing*

An ideal response would demonstrate:

- That flooring products meet minimum technical specifications
- That flooring products are selected based on durability and repairability
- That products supplied may include re-used, refurbished or remanufactured products that meets quality and safety standards
- That, where possible, flooring products used may be re-used, repaired, refurbished or remanufactured
- Potential KPIs to include percentage of products that are re-used/remanufactured and percentage of products that is re-used/repaired/remanufactured, with appropriate evidence from service records

6.5.4 Supplier selection

These are some suggested selection and award criteria that can be used within a supplier selection process. It needs to be emphasised that they must be both proportionate and relevant and there must be a clear methodology to evaluate responses.

For a flooring service contract, the following could be included:

Please provide a copy of your Environmental Policy and highlight how it relates to the sustainable values and objectives of Pembrokeshire County Council.

When selecting suppliers, it is essential to assess the technical capabilities which will be required for the products or services being procured. Not only is this useful from the Pembrokeshire County Council's point of view as suppliers that can clearly not meet the requirement will be eliminated, but it is also useful for the suppliers as they have a very clear understanding of how serious Pembrokeshire County Council are about sustainability and what will be essential for their submission to be successful.

In order to assess the technical ability of a supplier to meet the requirements as part of the 'selection stage' the following could be included:

The contractor should demonstrate that they have delivered the minimum environmental standards required of the 'services', including the application of circular economy outcomes, in previous contracts similar in nature to that required by Pembrokeshire County Council, through relevant specialist capability.

For a services contract, to assess the capability of suppliers in enabling circular economy outcomes, the following could be asked:

Detail your experience in delivering flooring that includes the use of durable, repairable, re-usable, or remanufacturable products, or the re-use, repair or remanufacture of flooring products.

An ideal response would provide the following:

- Evidence of experience of the management of repair, re-use and remanufacturing within its supply chain including sub-contractors and links to SMEs, third sector or supported businesses involved
- Evidence of having used re-used, repaired or refurbished flooring in the delivery of a contract similar in nature to the service required
- That packaging is re-usable and re-used as much as possible.

6.5.5 Contract management

Ongoing improvement throughout the contract can be achieved by building requirements into the contract and managing the contract appropriately once awarded. This approach is particularly useful where markets are developing quickly and the full performance requirement is not available to Pembrokeshire County Council at the time of the procurement, thereby allowing the desired performance to be met over the term of the contract.

For example:

- *The Supplier shall in the performance of the Contract provide a report to Pembrokeshire County Council on a [quarterly] basis utilising the attached template[32] setting out the proportion of flooring products supplied that is re-used, refurbished or remanufactured.*
- *The supplier hereby agrees to increase the recycled and or re-used content of flooring by xx% after 12 months and by a further xx% after 24 months.*
- *The supplier agrees to work with Pembrokeshire County Council to identify innovative methods that will lead to improved delivery of the sustainability objectives of the contract.*

6.6 Furniture

Furniture comprises the following products and services:

- Office furniture
- Door maintenance, repair, inspection and supply
- Furniture fittings and office equipment
- Residential furniture (e.g. care homes)
- Furniture furnishings and textiles – supplies and services

[32] The template should be drawn up by Bangor University and shared with the potential suppliers as part of the procurement process.

- General storage, racking and shelving

6.6.1 Procurement planning

Consider first:

- Is there a need to procure anything? Are there options to re-use or extend useful life of furniture products?
- Can the required function be provided in an alternative way? For example, changes in ICT requirements can impact on furniture needs, home working and hot desking impacts on the requirement for furniture. Can furniture be leased or hired? The lease should include maintenance and repair, and there is the opportunity to encourage the lease company to re-use, refurbish and repair furniture. This may be also achieved through a managed furniture service, as long as intended outcomes are part of the requirement.
- Demand management using asset management systems and communication channels allows forecasting and planning for demand, reducing consumption where feasible.
- Pembrokeshire County Council's intended outcomes, risks and opportunities throughout the lifespan of the contract. Is there a clearly articulated policy focus on circular economy outcomes including repair, re-use and remanufacturing and the use of recycled content?
- Pembrokeshire County Council's budget and all relevant life cycle costs
- Any available frameworks
- The views of all relevant internal and external stakeholders

6.6.2 Advertising

If sustainability is a core requirement and forms a key element of the subject matter of the contract, highlight this through the wording of the contract title, for example 'Sustainable Furniture Services / Equipment'.

If suppliers are put on notice in the OJEU advertisement, they will be alerted to look at the contract performance requirements and take an early view on whether they can satisfy the requirements. Below is an example of wording that can be used for this purpose:

Pembrokeshire County Council has included obligations within the specification and contract conditions relating to social and environmental matters including the durability, repairability, re-use and remanufacturing of furniture which are relevant to the service to be delivered.

It is also good practice to notify suppliers early in the process of particular conditions of the contract and as such this should also be included in the Contract Notice rather than just in the specification. For example:

A requirement of this contract is that a minimum of xx% of total packaging weight derives from re-used and recycled content.

6.6.3 Specification

Sustainable furniture service/equipment requirements need to be incorporated into the specification and must be relevant to the particular procurement.

In order to ensure that suppliers provide the intended outcomes of Pembrokeshire County Council it may be appropriate to include the following in the tender:

We are committed to sustainable furniture use which facilitates the delivery of national policies, legislation and wider priorities, including: the Well-being of Future Generations (Wales) Act 2015; the Welsh Government Towards Zero Waste Strategy; Prosperity for All: A Low Carbon Wales; and circular economy outcomes where relevant and proportionate.

Bidders are therefore required to demonstrate in a method statement how they will extend the useful life of furniture equipment supplied/used in the delivery of this service, through relevant durability, repair, re-use, refurbishment or remanufacturing during or after the contract period. This may include lease arrangements, sub-contracting arrangements and innovative solutions. This should include the key internal and external stakeholders involved and how you would seek to ensure cost effective and practical circular economy outcomes are delivered, together with suggested performance measures which are capable of monitoring and reporting through contract management.

An ideal response would demonstrate:

- That furniture offered is selected for its durability and repairability
- That furniture is regularly maintained and serviced (this may be a separate contract the contractor has)
- That furniture used may include re-used, refurbished or remanufactured parts and materials that meets quality and safety standards
- That, where possible, furniture will be re-used after being refurbished, during and/or after the contract has expired, either for internal re-use or externally (for example used on other contracts or sold)
- That furniture, at the end of its useful life, that is capable of cost-effective remanufacturing goes to a relevant contractor for this purpose and thereafter is redeployed/sold

- That cardboard packaging should be at least 70% post-consumer recycled content and plastic packaging should consist of at least 25% post-consumer recycled content.
- That packaging should be re-useable in a meaningful way, and be fully recyclable or compostable (certified to EN 13432) in the context of Pembrokeshire County Council's waste management system (details to be provided separately)
- Potential KPIs to include:
  - Expected useful life of the furniture under the contract (in months), extended by upgrade and maintenance where appropriate, before replacement is required. Evidence to be provided in terms of testing and/or simulation/design calculations
  - Percentage of redundant furniture from the contract that is re-used/refurbished/remanufactured, rather than recycled, with appropriate evidence from service records
  - Percentage of product packaging that is re-used/re-usable

Included below are example specifications which can be used to highlight the requirement to meet sustainability criteria within the furniture equipment used. It is important to establish that the market for a particular product can meet these requirements before incorporating them.

Warranty and service agreements

The tenderer shall provide a minimum three year warranty for new furniture effective from delivery of the product. Refurbished and remanufactured furniture should be supplied with the same warranty.

This warranty shall cover repair or replacement and include a service agreement with a pick-up and return option. The warranty shall guarantee that the goods are in conformity with the contract specifications at no additional cost.

Verification: A copy of the warranty and service agreement shall be provided by the tenderer. They shall provide a declaration that they cover the conformity of the goods with the contract specifications, including all indicated usage.

Recycled content

The average recycled content of plastic parts (not including packaging) shall be at least 30% by weight.

This criterion shall only apply if the total content of plastic material in the furniture product exceeds 20% of the total product weight (excluding packaging).

Any wood (including solid, woodchip and wood fibres), cork, bamboo or rattan material, as appropriate, shall be sustainable certified virgin material and/or recycled material. This criterion shall

only apply if the total content of these materials in the furniture product exceeds 5% of the total product weight (excluding packaging).

Cardboard packaging should be at least 70% post-consumer recycled content and plastic packaging should consist of at least 25% post-consumer recycled content. Packaging should be re-useable in a meaningful way and be fully recyclable or compostable (certified to EN 13432) in the context of Pembrokeshire County Council's waste management system (details to be provided separately).

Verification: Suppliers should provide evidence covering both the source of the timber (Chain of Custody) and proof that it is legally and sustainably managed or licensed by the FLEGT (Forest Law Enforcement Governance and Trade) Voluntary partnership.

The tenderer should indicate the percentage by weight of recycled content and/or refurbished and re-used components of wood-based materials, plastics, and/or metals and covering materials (e.g. textiles, leather)

Verification: Suppliers must provide documentation confirming the percentage by weight of recycled, refurbished and re-used content in the final piece of furniture and its packaging.

Durability

All furniture must comply with the relevant BS/EN or ISO technical and quality standards (applicable to the usage of the product).

Verification: Suppliers must provide appropriate documentation to demonstrate compliance with these standards.

Upholstery materials should comply with EN 13336 requirements for furniture leather.

Verification: The supplier shall provide a declaration, where appropriate from the leather/textile fabric supplier or coated fabric supplier, supported by relevant test reports

Repair, refurbishment and availability of spare parts

All furniture must be designed for disassembly to facilitate repair, refurbishment, re-use and ultimately recycling, either in part or as a whole.

Bonding or welding of parts, where this would inhibit refurbishment and re-use, should be avoided.

The supplier must make available diagrams and appropriate details of the way the furniture has been assembled so as to facilitate its disassembly and refurbishment.

Components and spare parts will be made available by the supplier for at least five years after sale to extend the product's lifetime through repair, as far as reasonably practical.

The tenderer shall provide clear disassembly and repair instructions (e.g. paper or electronic copy, video) to enable a non-destructive disassembly of the furniture product for the purpose of replacing component parts/materials. Instructions shall be provided in a hard copy together with the product and/or in electronic copy via the manufacturer's website. Disassembly and replacement operations should be capable of being carried out using common and basic manual tools and unskilled labour.

The tenderer shall refurbish the furniture items provided by Pembrokeshire County Council according to the specified requirements.

Depending on the kind of furniture to be refurbished and the condition of the existing furniture, the public authority shall detail as much as possible the operations to be carried out (e.g. respraying of metalwork, repair and/or re-finishing of wood surfaces, re-upholstery, desk conversions).

Verification: Suppliers must provide technical documentation that demonstrates that their product can be disassembled with standard tools, thereby allowing remanufacture, repair, refurbishment, re-use and recycling of components.

Re-use

The tenderer should demonstrate that they have a take-back scheme for repairing and refurbishing products for re-use and otherwise recycling of products that have reached the end of their useful lives. The tenderer shall demonstrate how they will extend the service life of the equipment by supplying it for re-use in the EU.

Verification: Suppliers must provide documentation to demonstrate that they have the capacity to meet this requirement.

A minimum re-use target of 50% (by weight) of the provided equipment is to be met.

90% or greater by weight of materials and components shall be recyclable or re-usable within the current infrastructure and using demonstrated technologies. The use of fastening methods (such as bonding of dissimilar materials) and coatings that would inhibit recycling or re-use must be avoided in regard to the 90% target noted above.

Verification: The successful tenderer shall provide a report on the status of the equipment collected one year after collection. The report shall: Identify the proportion of items re-used or recycled; Provide information on the fate of the equipment that could not be re-used.

Plastic parts of greater than 50g in weight shall be marked for recycling according to ISO 11469 or an equivalent and must not contain additions of other materials that may hinder recycling. For such parts of 50g in weight or more, where a marking will adversely affect the consumer acceptance and aesthetic reasons, information regarding recycling may be included in the user's manual or similar literature.

Verification: Suppliers should provide evidence that plastics included within the product are clearly labelled for recycling. Suppliers should also declare where materials within the product may hinder recycling.

6.6.4 Supplier selection

These are some suggested selection and award criteria that can be used within a supplier selection process. It needs to be emphasised that they must be both proportionate and relevant and there must be a clear methodology to evaluate responses

For a furniture contract the following could be included:

- *The percentage by weight of recycled, refurbished, remanufactured and/or re-used materials and components in the final piece of furniture*
- *Each additional year of warranty and service agreement offered that is more than the minimum technical specification*
- *Additional durability tests as follows:*
  - *EN 16139: Furniture - Strength, durability and safety - Requirements for non-domestic seating (after testing, the components shall not be damaged and shall still function as intended)*
  - *EN 12720. Furniture – Assessment of surface resistance to cold liquids (after testing the surface shall not be marked)*
  - *EN 15186. Furniture – Assessment of the surface resistance to scratching (after testing the surface shall not be marked)*
- *Provision of a 'dismantling test report' recording and providing a detailed description of the dismantling sequence, extraction steps and timing for the target parts and components. The disassembly test shall be carried out by a specialized recycling firm that is a permitted treatment operation in accordance with Article 23 of the Waste Framework Directive.*
- *A higher % of re-use (of redundant equipment) than that set out in the technical specifications*
- *The supplier's Environmental Policy and how it relates to the sustainability values and objectives of Pembrokeshire County Council*

When selecting suppliers it is essential to assess the technical capabilities which will be required for the products or services being procured. Not only is this useful from the Pembrokeshire County Council's point of view as suppliers that can clearly not meet the requirement will be

eliminated, but it is also useful for the suppliers as they have a very clear understanding of how serious Pembrokeshire County Council are about sustainability and what will be essential for their submission to be successful.

In order to assess the technical ability of a supplier to meet the requirements as part of the 'selection stage' the following could be included:

The contractor should demonstrate that they have delivered the minimum environmental standards required of the 'services', including the application of circular economy outcomes, in previous contracts similar in nature to that required by Pembrokeshire County Council, through relevant specialist capability.

For a services contract, to assess the capability of suppliers in enabling circular economy outcomes the following could be asked:

Detail your experience in delivering a furniture service that includes the use of re-used, repaired, refurbished or remanufactured furniture equipment or the repair, re-use and/or remanufacturing of redundant equipment, packaging and accessories used.

An ideal response would provide the following:

- Evidence of having used re-used or refurbished furniture in the delivery of a contract similar in nature to the service required
- Evidence of the re-use, regular maintenance and repair of equipment, refurbishment and where practical remanufacturing
- Evidence of the management of repair, re-use and remanufacturing within its supply chain including sub-contractors and links to SMEs, third sector or supported businesses involved
- Evidence of a focus on durability, longevity in service, and end-of-life options to optimise re-use, repair and remanufacture
- Evidence of application of relevant standards (e.g. Government Buying Standards) and relevant eco label criteria (e.g. the EU Ecolabel)
- Evidence of adoption of lean manufacturing processes in the supply chain
- Evidence of analysis of carbon impacts of differing manufacturing options in the supply chain
- Evidence of an in-use furniture assessment tool or methodology to identify interventions that would limit furniture damage and extend the life of in-use furniture
- Evidence of understanding the key circular economy opportunities and management requirements, including an example Management Plan.

6.6.5 Contract management

Ongoing improvement throughout the contract can be achieved by building requirements into the contract and managing the contract appropriately once awarded. This approach is particularly useful where markets are developing quickly and the full performance requirement is not available to Pembrokeshire County Council at the time of the procurement, thereby allowing the desired performance to be met over the term of the contract. For example:

The Supplier shall in the performance of the Contract provide a report to Pembrokeshire County Council on a [quarterly] basis utilising the attached template[33] setting out the re-used proportion content of packaging used, the proportion of otherwise redundant equipment that is re-used, refurbished or remanufactured.

The supplier hereby agrees to increase the proportion of redundant furniture that is re-used by xx% after 12 months and by a further xx% after 24 months.

The supplier agrees to work with Pembrokeshire County Council to identify innovative methods that will lead to improved delivery of the sustainability objectives of the contract.

The benefits of the contractual requirement must be quantifiable and measurable otherwise there is a risk that enforcement may be impossible.

Pembrokeshire County Council must also consider whether this requirement is core to the contract or a secondary issue, as any remedy for breach of these clauses may be difficult to quantify. In these circumstances a pre-agreed service credit or rebate would enable recompense for non-performance as termination of the contract would not be an option.

Efficient contract management not only ensures that the contract is performed according to the detailed requirements but also allows for continual improvement over the life of the contract, through relationship management, ongoing stakeholder engagement and providing a focus for innovation. This is particularly the case for remanufacturing where the market may initially be constrained but opportunities develop over time.

Monitoring the contract will be essential to ensure that the service quality, cost and sustainability objectives are achieved and that this can be evidenced.

6.7 Textiles

Textiles will might the following products and service:

- Protective and workwear clothing

[33] The template should be drawn up by Bangor University and shared with the potential suppliers as part of the procurement process.

- Linen and bedding
- Textiles services (including textile laundry or uniform services)
- Mattresses
- Other soft furnishings

6.7.1 Procurement planning

Consider first:

- Is there a need to procure anything? Are there options to re-use textile products from elsewhere?
- Can the required function be provided in an alternative way? For example, leasing of uniforms is quite common and may be a feasible alternative to procuring the equipment. The lease should include maintenance and repair, and there is the opportunity to encourage the lease company to re-use and refurbish/repair clothing. This may be also achieved through rental or hiring textiles or a managed equipment service, as long as intended outcomes are part of the requirement.
- Demand management using information technology and communication channels allows forecasting and planning for demand, reducing consumption where feasible.
- Pembrokeshire County Council's intended outcomes, risks and opportunities throughout the lifespan of the contract. Is there a clearly articulated policy focus on circular economy outcomes including repair, re-use and remanufacturing and the use of recycled content?
- Pembrokeshire County Council's budget and all relevant life cycle costs
- Any available frameworks
- The views of all relevant internal and external stakeholders

6.7.2 Advertising

If sustainability is a core requirement and forms a key element of the subject matter of the contract, highlight this through the wording of the contract title, for example 'Sustainable Workwear Services / Products'.

If suppliers are put on notice in the OJEU advertisement, they will be alerted to look at the contract performance requirements and take an early view on whether they can satisfy the requirements. Below is an example of wording that can be used for this purpose:

Pembrokeshire County Council has included obligations within the specification and contract conditions relating to social and environmental matters including the durability, repair, re-use and remanufacturing of equipment which are relevant to the service to be delivered.

It is also good practice to notify suppliers early in the process of particular conditions of the contract and as such this should also be included in the Contract Notice rather than just in the specification. For example:

A requirement of this contract is that a minimum of xx% of total packaging weight derives from re-used and recycled content.

6.7.3 Specification

Sustainable textiles service/products requirements need to be incorporated into the specification and must be relevant to the particular procurement. In order to ensure that suppliers provide the intended outcomes of Pembrokeshire County Council it may be appropriate to include the following in the tender:

We are committed to procuring a sustainable textiles service which facilitates the delivery of national policies, legislation and wider priorities, including: the Well-being of Future Generations (Wales) Act 2015; the Welsh Government Towards Zero Waste Strategy; Prosperity for All: A Low Carbon Wales; and circular economy outcomes where relevant and proportionate.

Bidders are therefore required to demonstrate in a method statement how they will extend the useful life of textiles equipment supplied/used in the delivery of this service, through relevant durability, repair, re-use, refurbishment or remanufacturing including through sub-contracting arrangements and innovative solutions. This should include the key internal and external stakeholders involved and how you would seek to ensure cost effective and practical circular economy outcomes are delivered together with suggested performance measures which are capable of monitoring and reporting through contract management.

An ideal response would demonstrate:

- That textile products meet minimum technical specifications
- That textile products are selected based on durability and repairability
- That textile products are regularly maintained and repaired (this may be a separate contract the contractor has)
- That products used may include re-used, refurbished or remanufactured products that meets quality and safety standards
- That, where possible, textiles products used may be re-used, repaired or remanufactured - either for internal re-use or externally (for example though exchanges or auctions)
- That textile products, at the end of its useful life, that is capable of cost-effective repair or remanufacturing goes to a relevant contractor for this purpose and thereafter is redeployed/sold

- That cardboard packaging should be at least 70% post-consumer recycled content and plastic packaging should consist of at least 25% post-consumer recycled content
- That packaging should be re-useable in a meaningful way, and be fully recyclable or compostable (certified to EN 13432) in the context of Pembrokeshire County Council's waste management system (details to be provided separately)
- Potential KPIs to include percentage of product packaging that is re-used/re-usable and percentage of products that is re-used/repaired/remanufactured, with appropriate evidence from service records

Included below are example specifications which can be used to highlight the requirement to meet sustainability criteria for either textiles products or textiles FM services. It is important to establish that the market for a particular product can meet these requirements before incorporating them.

Textiles service provision

Detail your understanding, experience and achievements in:

- *Cost-effectively providing textile services which maximises, where practical, the durability of textiles and minimises the use of materials, resources and reducing the whole life costs of textiles service delivery*
- *Providing key textiles materials and associated resource performance data to clients, providing analysis and advice for improvements to textiles services*
- *Maximising inclusion of recycled content, the re-use and the repair of textiles at the end of life*
- *Helping clients to reduce environmental impacts associated with the provision of textile related services*

Verification: the supplier should provide evidence of experience in delivering these outcomes through contracts

Warranty and service agreements:

The tenderer shall provide a minimum xx year warranty for new textile products effective from delivery of the product. Refurbished and remanufactured products should be supplied with the same warranty.

This warranty shall cover repair or replacement and include a service agreement with a pick-up and return option. The warranty shall guarantee that the goods are in conformity with the contract specifications at no additional cost.

Verification: A copy of the warranty and service agreement shall be provided by the tenderer. They shall provide a declaration that they cover the conformity of the goods with the contract specifications, including all indicated usage.

Durability

Bidders should provide details of testing and performance standards for textile products, including details of testing and performance criteria relate to longevity and extension of the product lifecycle.

- *Shrinkage*
- *Resistance to fading from washing*
- *Colourfastness to perspiration*
- *Colourfastness to wet rubbing*
- *Colourfastness to dry rubbing*
- *Resistance to fading from light*
- *Commercial laundering and dry cleaning*
- *Rubbing (wet and dry)*
- *Chlorinated and sea water*
- *Hydrophobicity (drop test)*
- *Phenolic yellowing*
- *Testing for print durability.*

Verification: Manufacturers' declaration.

Repair and re-use

Uniforms should not include logos or names that are difficult to remove but should use removable badges (unless permanent identification for security or otherwise is required, when these should be as discreet as possible).

Verification: Suppliers' technical specification demonstrates easy-to-remove logos.

End of life management:

Bidders are encouraged to demonstrate how this textiles product or service will be delivered in accordance with the waste hierarchy. This can include:

- *Product labelling or take back schemes to encourage sustainable actions at the end of life stage*
- *Avoidance of uniforms which include logos or names that are difficult to remove, or use of removable badges (unless permanent identification for security or tax reasons is required, when these should be as discreet as possible)*

- *Textiles management scheme to facilitate re-use or repair*
- *Product take-back schemes or partnerships with third parties who can re-use or recycle high proportions of the used textiles*

Verification: The supplier must provide sufficient information to allow the effective evaluation of the innovative approaches proposed, including independently verified estimates of their potential benefits.

6.7.4 Supplier selection

These are some suggested selection and award criteria that can be used within a supplier selection process. It needs to be emphasised that they must be both proportionate and relevant and there must be a clear methodology to evaluate responses.

For a textiles service contract the following could be included:

- *The percentage by weight of recycled, refurbished, remanufactured and/or re-used materials and components in the final textile product*
- *Each year of warranty and service agreement offered*
- *Additional durability performance criteria on:*
  - *Shrinkage*
  - *Resistance to fading from washing*
  - *Colourfastness to perspiration*
  - *Colourfastness to wet rubbing*
  - *Colourfastness to dry rubbing*
  - *Resistance to fading from light*
  - *Commercial laundering and dry cleaning*
  - *Rubbing (wet and dry)*
  - *Chlorinated and sea water*
  - *Hydrophobicity (drop test)*
  - *Phenolic yellowing*
  - *Testing for print durability*
- *Please provide a copy of your Environmental Policy and highlight how it relates to the sustainable values and objectives of Pembrokeshire County Council.*

When selecting suppliers it is essential to assess the technical capabilities which will be required for the products or services being procured. Not only is this useful from the Pembrokeshire County Council's point of view as suppliers that can clearly not meet the requirement will be eliminated, but it is also useful for the suppliers as they have a very clear understanding of how

serious Pembrokeshire County Council are about sustainability and what will be essential for their submission to be successful.

In order to assess the technical ability of a supplier to meet the requirements as part of the 'selection stage' the following could be included:

The contractor should demonstrate that they have delivered the minimum environmental standards required of the 'services', including the application of circular economy outcomes, in previous contracts similar in nature to that required by Pembrokeshire County Council, through relevant specialist capability.

For a services contract, to assess the capability of suppliers in enabling circular economy outcomes the following could be included:

Detail your experience in delivering a textiles service that includes the use of durable, repairable, re-usable, or remanufacturable textile products, or the re-use, repair or remanufacture of textile products.

An ideal response would provide the following:

- Evidence that textiles commodity items meet minimum technical specifications
- Evidence of application of relevant standards (e.g. Government Buying Standards, Revolve) and relevant eco label criteria (e.g. the EU Ecolabel)
- Evidence that products are selected based on durability, repairability and longevity (e.g. in textiles service provider's supply chain)
- Evidence of the management of repair, re-use and remanufacturing within its supply chain including subcontractors and links to SMEs, third sector or supported businesses involved
- Evidence of having used re-used, repaired or refurbished textiles in the delivery of a contract similar in nature to the service required
- That packaging is re-usable and re-used as much as possible
- Potential KPIs to include percentage of packaging that is re-used/re-usable and percentage of products or equipment that is re-used/repaired/remanufactured, with appropriate evidence from service records
- Evidence of understanding the key circular economy opportunities and management requirements, including an example Management Plan

6.7.5 Contract management

Ongoing improvement throughout the contract can be achieved by building requirements into the contract and managing the contract appropriately once awarded. This approach is particularly useful where markets are developing quickly and the full performance requirement is not

available to Pembrokeshire County Council at the time of the procurement, thereby allowing the desired performance to be met over the term of the contract. For example:

- *The Supplier shall in the performance of the Contract provide a report to Pembrokeshire County Council on a [quarterly] basis utilising the attached template[34] setting out the re-used proportion content of packaging used, the proportion of textile products that is re-used, refurbished or remanufactured.*
- *The supplier hereby agrees to increase the recycled and or re-used content of packaging by xx% after 12 months and by a further xx% after 24 months.*
- *The supplier agrees to work with Pembrokeshire County Council to identify innovative methods that will lead to improved delivery of the sustainability objectives of the contract.*

Monitoring the contract will be essential to ensure that the service quality, cost and sustainability objectives are achieved and that this can be evidenced.

[34] The template should be drawn up by Bangor University and shared with the potential suppliers as part of the procurement process.

Appendix D – Personal Protective Clothing Comparator Spend Review

PCC currently issue several pairs of gloves per week per operative in Recycling waste collection services alone, assuming an average of 3 per week issued (minus annual leave weeks) that would be 138 pairs of gloves per operative per annum. The cheapest gloves are £0.95 to £2.00, therefore per operative this cost between £131.10 to £272.00 per annum.

Existing Items 2019	p/unit	Proposed Items 2020	p/unit	Average Issue per operative per annum	Average cost per operative per annum	Cost Difference per unit
	£		£		£	£
Navy Ballistics	19.95	Orange Ballistics	17.5	3	52.5	-2.45
Yellow short T shirt	7.25	Orange short sleeve T-shirt	6.25	3	18.75	-1.00
Orange long t-shirt	-	Orange long t-shirt	8.95	3	26.85	0.00
Orange Sweater	-	Orange Sweater	10.5	1	10.5	0.00
Coat (+Logo)	22.5	Coat (inc. Logo)	22.5	1	22.5	0.00
Over Trouser	8.25	Over trouser	9.41	1	9.41	1.16
Soft Shell Jacket	-	Soft Shell Jacket (inc. logo)	33.95	1	33.95	33.95
Water resistant boots	23.95	Water Proof Boots (Light Year)	29.99	3	89.97	6.04
Beanie hat	1.55	Beanie Hat	1.55	1	1.55	0.00
Summer Glove	**4.6**	**Summer Glove**	**2.6**	**26**	**76.05**	**-2.00**
Full Coated Glove	**4.75**	**Winter glove (fully coated)**	**3.25**			**-1.50**
Winter Glove liner	1.27	Winter glove liner	1.27	6	7.62	0.00
Thermal Top	6.94	Thermal top	6.94	1	6.94	0.00
Thermal Bottom	8.4	Thermal bottom	8.4	1	8.4	0.00

This example demonstrates that different issuing practices can apply in the same working environment, tailored to summer and winter conditions, a higher quality glove issued that is

capable of being washed and re-used over 2 weeks per issue results in 26 textile gloves per operative at a cost of £76.05 per annum. Tan example of this glove manufacturer is PK Safety, the gloves also assist with safe operation on the highway with colour coding for Stop and Go measures and they meet the requirements of EN 3882016, have latex free versions and water resistant and ventilated versions.

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 re-use and recycling.

Find out more at **www.wrap.org.uk**

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