



# PRIMARY IMPACT AREA FOR CLIMATE CHANGE

---

## FURNITURE

June 2022



## Contents

Introduction.....	3
Section 1 – Framework Agreements.....	4
National Framework Agreements Scottish Government .....	4
Higher and Further Education Sector Framework Agreements.....	4
Other Framework Agreements.....	4
Section 2 – Potential Short-Term Permanent Changes That Can Have Positive Impacts.....	5
Section 3 - Potential Longer-Term Permanent Changes That Can Have Positive Impacts .....	7
Section 4 - Other Working Groups / Orgs That May Also Be Working on Similar Work.....	9
Section 5 - Links to Other Sources of Information.....	9
Section 6 – Potential Sources of Extra Funding .....	9
Section 7 – Whole Life Costing / Lifecycle Impacts.....	10
Life Cycle Impact Mapping + Carbon Impact.....	10
The carbon impacts of re-use / refurb versus new for common items .....	10
Life Cycle Costing.....	11
Annex 1 -Information on Good Practice / Case Studies / Draft Codes of Good Practice etc .....	12
Annex 2 .....	13

## INTRODUCTION

This document aims to provide information in as simple and brief a form as possible, of the aspects that can be considered in applying action to reduce the impacts on climate emissions on goods or service procured by institutions.

- Section 1 provides information on framework agreements that are available to the sector that have climate emission reduction / low climate emission options either as a fundamental part of the framework or as a lot within the framework or otherwise as provided for via the framework.
- Section 2 contains potential short-term permanent changes that can be made now for this PIACC area / sub-area
- Section 3 contains potential longer term aspects that may need a longer lead-in / planning time and / or liaison with other parties. This can include aspects where the CEPWG may be able to collectively represent the sector and seek change in policy, regulations etc, and if applicable, engage other sector bodies and individuals in influencing the desired changes.
- Section 4 contains details of other working groups / organisations that may also be working on similar work to the area covered by this document.
- Section 5 contains links to other sources of information that have been reviewed by a CEPWG PIACC Member.
- Section 6 contains (where applicable) potential sources of funding / grants that may be available to develop work in this area.
- Section 7 contains information on Lifecycle Impact / Whole Life Costing, which identify and assess the social and environmental impacts as well as whole life costing factors for this area.
- Annex 1 contains information on examples of good practice already identified in relation to this PIACC / case studies, / draft codes of good practice etc (or further links to them).
- Annex 2 contains information from the APUC Responsible Procurement Guides in relation to carbon reduction

## SECTION 1 – FRAMEWORK AGREEMENTS

Find below information on framework agreements that are available to the sector that have climate emission reduction / low climate emission options either as a fundamental part of the framework or as a lot within the framework or otherwise as provided for via the framework:

### National Framework Agreements Scottish Government

#### [SP-18-11 – Commodities Reserved for Supported Businesses](#)

### Higher and Further Education Sector Framework Agreements

#### [FFE1011AP – Furniture \(Supply, Delivery, Installation\)](#)

The Core Products List for each lot includes details of the recycled content of each item and the accompanying 'product catalogue' contains full detail on each product including sustainable characteristics.

The Core Products List also contains 'sustainable alternatives' that offer a lower environmental impact in their lifecycle

The Framework includes a full suite of services for repair, refurbishment and re-upholstery to extend the life of existing products

Each contractor offers a takeback service for re-use or recycling of existing 'redundant' products, with circular economy aspects

All products have a five year warranty and spares and component parts for all products supplied under the Framework Agreement must be available for a minimum of five years or in line with the life expectancy the product, whichever is greater.

Full details can be found on APUC Ltd's Buyers Portal

### Other Framework Agreements

#### [FFE2008 NE – Sustainable Furniture Solutions \(Lots 1a, 1b, 1c & 1d only\)](#)

These lots on the Framework offer access to services aimed at the re-use, recycling, re upholstering of furniture though circular economy, including design and access to an e-marketplace.

## SECTION 2 – POTENTIAL SHORT-TERM PERMANENT CHANGES THAT CAN HAVE POSITIVE IMPACTS

<b><u>1. Quick wins available through Framework Agreement</u></b>	
1 Quick wins available through the APUC Framework Agreement for Furniture	<ol style="list-style-type: none"> <li>1. Reusing products within the campus (reverse logistics / Take-Back Schemes)</li> <li>2. Choose remanufactured/refurbished over new</li> <li>3. Repair of existing furniture rather than replacing worn furniture</li> <li>4. Specifying sustainable sources</li> <li>5. Making obsolete furniture available to other institution or third sector organisations (donation via Contracted Supply chains or directly)</li> <li>6. Recycling of redundant products within the supply chain (reverse logistics / Take-Back Schemes)</li> <li>7. Select items with higher recycled content to reduce use of virgin materials</li> <li>8. Get advice from the account managers on reuse/refurbish options (pre-market engagement!)</li> <li>9. Get samples (try before you buy)</li> </ol>
2. Choose remanufactured/refurbished over new product	Potential options for remanufacture and redeployment available through all contracted suppliers (FFE1011 AP)

<b><u>2. Procurement / Buying Behaviour Changes</u></b>	
1. Buy furniture with high spec when new to enable extended life	Plan ahead and consult suppliers about newest developments and offers in regards to maintenance and warranty extensions. Service contracts evaluated on whole life costing terms can provide better transparency
2. Contact local charities (use a donation declaration form, ensure an audit trail) or sell it for a pittance (creates a contract – sell as seen)	Furniture may still be suitable for the needs of other organisations such as charities. This can be done directly or through contracted suppliers as part of purchase of replacement furniture.
3. Use 3 <sup>rd</sup> party services	Making obsolete furniture available to other institution (donation) - see Warp It

### **3. Specifications**

<p>1. Develop an Output Specification: Ensure extended life. Include warranties (5 years +) to spread the risk.</p>	<p>Ensure it is build for the future or can be easily modified and replaced. Warranties will ensure some extended life, modularity can provide you with the option of exchanging parts and refurbishing the furniture at relatively low cost.</p>
<p>2 Develop an Input Specification: Specify your requirements by detailing what needs to be achieved now and in the future. Challenge suppliers to provide you with a long-term solution.</p>	<p>Specify to suppliers what needs to be achieved and evaluate on the proposed solution. Ensure evaluation methods are very clear, fair and open.</p>
<p>3. Change packaging requirements</p>	<p>Whilst packaging requirements are covered on Framework Agreement level, support the requirement by specifying to your contractor that packaging must be removed and reused or recycled.</p>

## SECTION 3 - POTENTIAL LONGER-TERM PERMANENT CHANGES THAT CAN HAVE POSITIVE IMPACTS

These potential longer term aspects may need a longer lead-in / planning time and / or liaison with other parties. This can include aspects where the CEPWG may be able to collectively represent the sector and seek change in policy, regulations etc, and if applicable, engage other sector bodies and individuals in influencing the desired changes.

### 1. Procurement / Buying Behaviour Changes

- Slowing down the replacement cycle of existing furniture
- Repair or refurbish existing products rather than replace – potential cost savings
- Consider buying refurbished product or mix of refurbished and new
- Standardisation - style across the institution should be interchangeable
- Consider flexibility in future use across departments - functionality and future requirements
- Hot Desk / Multi stakeholder use of furniture
- Lockers vs Pedestals

### 2. Specification Considerations

- Consider appropriate lifecycle of products (ability to repair - warranty/spare parts)
- Style across the institution should be interchangeable
- Consider Modularisation for adaption and replacement and repair
- Functionality, durability and adaptability
- Select items with higher recycled content to reduce use of virgin materials
- Consider the recyclability and or carbon footprint of the product(s) required and use this as part of the selection criteria
- Consider existing product and if this has to be replaced, seek to either re-use within sector or donate to third sector or recycle through existing supply chain

### 3. Futuristic Environments

- Use of Hot / touch down desking environment
- Adaptable learning environments
- Avoid aesthetic choices that may have limited 'fashion' life, reduced warranties and issues obtaining spare parts
- Functionality, durability and adaption

## The University and College Sectors Supply Chain Climate and Ecological Emergency Strategy

The University and College Sectors Supply Chain Climate and Ecological Emergency Strategy, endorsed by the USECEC and the CDN-CEED, and also by the Universities Scotland Principals Group and the Colleges' Principals Group, sets out high level overall strategic approaches to addressing the Climate and Ecological Emergency across the identified seven Primary Impact Areas of Climate Change (PIACC).

Acknowledging that “it is critical moving forward that the sector views furniture as a long term asset, not as a disposable commodity and that the carbon impact of that asset be viewed across its whole life, from its creation to its disposal, with options such as repair, refurbishment and remanufacture reviewed prior to purchase of new product, which could result in over three times the tonnes of avoided CO<sub>2</sub> (tonnes equivalent) and CO of the product’s own weigh”, the University and College sector will apply as appropriate the following activities:

- Apply a default strategy of re-use, repair, or upcycling of existing furniture rather than replace.
- Where it is not possible to choose remanufactured/refurbished over new products, the University and College sectors will:
  - Ensure that Framework Agreements are put in place / maintained, that provide as a priority, an easy / simple cost-effective route to market for furniture needs that enable and encourage lower GHG emission options and provide transparency over the impacts attributed to purchases under the agreements.
  - Specify products from sustainable sources, measuring the level of recycled components and sustainable characteristics, while being aware that recycling does not always result in a reduction in GHG emissions
  - Consider design characteristics for durability of use, re-use, repair, upgrade, upcycling, remanufacture and recycling, and low impact manufacturing options including the level of recycled materials utilised.
  - Seek minimum warranties and guarantees around availability of spare parts and / or maximise purchase of furniture using modular and / or adaptable construction methods to provide maximum lifespan.
- For products being replaced or considered to be at their end-of-life, options for re-use will be investigated both internal and external to the sectors, including via existing supply chains, and if this is not feasible, the purest and most effective forms of recycling, including back into the supply chain, sought.
- To encourage utilisation and development of circular economy solutions, the University and College sectors will put in place / maintain Framework Agreement(s) and / or circular economy shared service options that provide an easy / simple cost-effective route to market for furniture refurbishment needs that enable and encourage lower overall GHG emissions and provide transparency over the impacts attributed to this circularised economy approach.
- Make appropriate use of sustainable Take-Back schemes.



## SECTION 4 - OTHER WORKING GROUPS / ORGS THAT MAY ALSO BE WORKING ON SIMILAR WORK

1. Zero Waste Scotland – Circular Office
2. Cross-sector furniture group (supply chain activity)

### Welcome to Warp It- the resource redistribution network

Warp It helps you distribute reuse and recycle surplus redundant resources such as furniture, equipment, fixtures and fittings within your organisation and beyond.

<https://www.warp-it.co.uk/>

## SECTION 5 - LINKS TO OTHER SOURCES OF INFORMATION

Government Buying Standards – Furniture

Green Public procurement (GPP) Core Criteria

REBUS Sector Report Furniture

Circular Office Guide BITC

<https://www.greenofficemovement.org/>

## SECTION 6 – POTENTIAL SOURCES OF EXTRA FUNDING

1. There has been previous funding rounds to drive energy efficiency in the Scottish HE sector including Universities Carbon Reduction Fund and the Universities for the Future: Decarbonising Scotland
2. Scotland Recycling Fund
3. SFC
4. Research Councils
5. EAUC put together a Scottish Funding Register
6. NUS Green Impact - A United Nations programme designed to support environmentally and socially sustainable practice in an organisation and has a programme for Unis and Colleges
7. Zero Waste Scotland
8. UCISA (Events funding)

## SECTION 7 – WHOLE LIFE COSTING / LIFECYCLE IMPACTS

Find information on Lifecycle Impact / Whole Life Costing, which identify and assess the social and environmental impacts as well as whole life costing factors for this area.

### Life Cycle Impact Mapping + Carbon Impact

Impacts of obtaining raw materials	Impacts of manufacturing and logistics
<ol style="list-style-type: none"> <li>1. FSC – Sustainable sources (virgin materials)</li> <li>2. Recycled content of raw materials</li> <li>3. Reused materials</li> <li>4. Labour Rights</li> </ol>	<ol style="list-style-type: none"> <li>1. Transport</li> <li>2. Frequency of Delivery</li> <li>3. Carbon offset</li> <li>4. Reverse Logistics</li> <li>5. Operational Energy Use</li> <li>6. Minimised packaging</li> <li>7. Packaging (recycled content, recyclable)</li> </ol>
Impacts during use of product/service	Impacts at end of life / disposal
<ol style="list-style-type: none"> <li>1. Energy Efficiency</li> <li>2. Lifespan</li> <li>3. Consumables</li> <li>4. Maintenance (Spare Parts)</li> <li>5. Adaptability</li> <li>6. Reconditioning</li> </ol>	<ol style="list-style-type: none"> <li>1. Take-Back</li> <li>2. Reuse/Recycle</li> <li>3. Redesign/Refurbish</li> <li>4. Donation</li> <li>5. Avoidance of Landfill</li> </ol>

[Calculate your impact - Reuse Network \(reuse-network.org.uk\)](http://reuse-network.org.uk)

The carbon impacts of re-use / refurb versus new for common items

Summary Table Item	Carbon impacts of manufacturing new items (kgCO <sub>2e</sub> per unit)	Carbon savings of reuse (kgCO <sub>2e</sub> per unit)	Difference (%)
Office chair	74	19	-74%
Desk	78	19	-76%
Sofa	90	19	-79%
Arm chair	43	9	-79%
Footstool	17	2	-86%
Electric chair	75	17	-77%
Sofa bed	88	21	-77%

## Life Cycle Costing

<b>Acquisition</b>	<b>Use/service delivery costs</b>	<b>Maintenance / related services costs</b>	<b>End of life / termination costs / residual value</b>
<ul style="list-style-type: none"> <li>• Repair, refurbish or replace?</li> <li>• Modularisation and adaptability</li> <li>• Avoid customisation</li> <li>• Standardised products / Off-the-shelf products</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate scheduling of delivery / project planning</li> <li>• Storage options</li> <li>• Installation</li> </ul>	<ul style="list-style-type: none"> <li>• Warranties</li> <li>• Refurbishment</li> <li>• Spare Parts</li> <li>• Upgrade</li> <li>• Cleaning / Upholstery</li> </ul>	<ul style="list-style-type: none"> <li>• Donation</li> <li>• Supplier Take-Back</li> <li>• Recycling</li> <li>• Reuse within other departments</li> </ul>

[Life Cycle Impact Mapping – Scottish Government](#)

[International Institute for Sustainable Development – Life Cycle Costing](#)

[Life Cycle Costing ICLEI](#)

[Life Cycle Costing – European Commission](#)

[ICLEI Fair ICT Procurement Guidance](#)

<https://csr-indkob.dk/tco-vaerktoejer/>

## ANNEX 1 - INFORMATION ON GOOD PRACTICE / CASE STUDIES / DRAFT CODES OF GOOD PRACTICE ETC

-

### Good Practice Hub Case Study Links

- Case Study: Monitoring SPP
- [Abertay - Furniture Recycling Case Study](#)
- [REBus Furniture Sector report](#)
- [Reuse and Refurbishment of Furniture Through Circular Economy Procurement \(NHS Wales\)](#)
- [Furniture Framework Applying Circular Economy Principles \(Malmo, Sweden\)](#)
- Case studies on cost and carbon savings from sector based projects for repair and refurbishment rather than replace are currently being developed

## ANNEX 2

Annex 2 contains information from the Responsible Procurement Guides in relation to carbon reduction:

### Materials Scarcity and Security

#### **Development Stage**

Think about whole product lifecycle – cradle to cradle approach. Can a circular economy approach be applied regarding repair or refurbishment, avoiding the production of waste? Or reducing the need for new/raw materials to be consumed in the production and delivery of the goods? At the very least what scope is there to reuse resources and recycle goods within the manufacturing process.

Does the product to be procured potentially include the use of materials that are known to be scarce or unsustainable.

Is the product modular by nature, allowing future repair or part replacement, refurbishment or adaptation rather than complete replacement.

Are there alternative products from natural or man-made materials that are more sustainable?

#### **Tender Stage**

Demand supply chain transparency from tenderers to gain an understanding of where suppliers are based.

Ask suppliers if there is a potential opportunity to minimise the use of such materials or use sustainably managed materials.

Promote reduction in packaging by use of reusable packaging or packaging with high recycled content. Ask suppliers for data on the number of times packaging can be reused and how the supplier manages this.

Require that packaging must not contain any plant-based material that was illegally sourced from its country of origin e.g. Palm Oil

#### **Contract Stage**

Think about extending product lifecycle once purchased, modular reparability (i.e. fixing component parts),

Can an existing item be reconditioned or could a reconditioned product meet the requirement.

Promote use of long-life and/or recycled consumables amongst end-users.

## Climate Change

### **Development Stage**

There are many elements associated with the procurement of furniture and Electrical Goods where the effect on climate change should be considered. This includes the type and finish of a product. Where this is known to involve heavy production processes and high wastage consider alternative products.

Think about whether existing furniture be refurbished economically. Institutions should engage with and challenge their supply chain to find out what they can do to assist them in reducing carbon and environmental impacts.

Can existing or redundant products be reused or recycled by the manufacturer, supplier or institution or an external body (charity or social sector). Can refurbished products be purchased? A number of existing Framework Agreements offer 'takeback' processes through the supply chain to facilitate this.

Where possible consider product(s) with a higher recycled content to avoid use of virgin materials and measure items carbon footprint.

### **Tender Stage**

Ask suppliers whether goods will be manufactured from sustainable sources, verified through labels and standards.

Ask suppliers about transport planning that promotes reduction of carbon emissions and use of effective and efficient mode of transport(s) and routes.

Think about product Life Span – ensure you are considering the ability of the product to last the required period (warranty and fitness for purpose). Do not under or over specify. Ask suppliers if products can be modularised, parts exchanged or fixed? Can products be returned to supplier?

Are circular economy principles followed?

Specify Energy Rating (for White Goods consider A+ rated goods).

See EU GPP Criteria on the Good Practice Hub or on the EU Website for [Furniture](#), [Textiles and Services](#) , and for [ICT equipment](#).

### **Contract Stage**

Think about frequency of delivery/ability to consolidate deliveries. Use of reverse logistics – collection or transfer existing product to another site/point of recycling at time of delivery.

Consider Carbon Offsetting Schemes – measuring true effectiveness and relevance to nature of Contract.

Consider Consumables (availability, frequency of replacement & impacts associated with consumable and disposal). Do they need to be fitted or can they be sent via mail?

Consider and plan service requirement (No. of Visits) to maximise efficiency and reduce miles travelled. Are site visits necessary or can matters be discussed remotely?

## Waste production

<p><b><u>Development Stage</u></b></p> <p>Consider the waste hierarchy for both produce purchased and materials used in their production and delivery. Does a new product have to be procured?          Can an existing item be re-used, sourced through Warp-it or the supply chain. Many contracted suppliers can supply refurbished or reconditioned goods. A number of existing Framework Agreements offer ‘takeback’ processes through the supply chain to facilitate this.          What is the life span of the current product? Can spares and replacement parts be sourced over a sufficient period to extend the life of a product?          Consider the recyclability of an item and the level to which it can be recycled within the supply chain to maximise recovery and re-use of materials.          The target should be to minimise or negate disposal to landfill wherever possible and ensure compliance with relevant legislation. All electrical items will be covered by WEEE Regulations 2006 and may also be subject to The Restriction of the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment Directive (2011/65/EU). The supply chain can offer advice and guidance on this as well as the links given below.</p>
<p><b><u>Tender Stage</u></b></p> <p>Challenge your supply chain on what they do to promote:</p> <ul style="list-style-type: none"> <li>• Reduce</li> <li>• Reuse</li> <li>• Recycle</li> <li>• Recover</li> </ul>
<p><b><u>Contract Stage</u></b></p> <p>If an item is no longer required can it be re-used, re-engineered or recycled? Can it be offered for use to within the institution or sector? Many contracted suppliers can arrange collection and transfer of items to third sector bodies with chain of custody certification.</p>

## Hazardous materials/ emissions

<p><b><u>Development Stage</u></b></p> <p>Think about the emissions associated with the products manufacture, operation and disposal. Can it be re-used or recycled efficiently and with minimum impact to the environment?          A number of existing Framework Agreements offer ‘takeback’ processes through the supply chain to facilitate this.          Think about risks in the lifecycle associated with hazardous materials and emissions; Worker Safety, Environmental pollution.          What scope is there to eradicate hazardous materials or reduce emissions?</p>
<p><b><u>Tender Stage</u></b></p> <p>Ask suppliers what efforts are made to reduce the amount of hazardous materials/ emissions during production. of workers in having to deal with hazardous materials /emissions during production.</p>
<p><b><u>Contract Stage</u></b></p>

Look at company reporting regarding environmental management and health and safety.