UKUPC WEBINAR: CIRCULAR PROCUREMENT OPPORTUNITIES

MICHAEL MCLAUGHLIN, RICARDA BIEKE & ANDY ANDERSON (APUC)
What will we cover?

• Introduction to the Circular Economy
• Circular Procurement Strategies
• How to embed circular Procurement
• Circular Procurement Opportunities
• Q&A
Before we start ...

Climate Emergency Declared
What is Circular Procurement?

Circular procurement sets out an approach to green public procurement which pays special attention to "the purchase of works, goods or services that seek to contribute to the closed energy and material loops within supply chains, whilst minimising, and in the best case avoiding, negative environmental impacts and waste creation across the whole life-cycle".
Carbon footprint is a widely used measure of the amount of greenhouse gases, such as carbon dioxide, released into the atmosphere as a direct and indirect result of human activities.

Procurement's role - Circular Procurement Strategies

Embodied Carbon

Life Cycle Impact
- obtaining raw materials
- manufacturing and logistics
- use of products or works and the delivery of services
- re-use/re-manufacture and final disposal

Prevention
Preparing for re-use
Recycling
Other recovery
Disposal
Circular Strategies

• Circular design
  • Design to disassembly
  • Repairability

• Optimise lifetime and use
  • Re-use
  • Repair
  • Sharing Economy

• Extend lifetime
  • Remanufacture
  • Modularise
  • Take-back

• Product as a service or Leasing

• Resource recovery
How to embed Circular Procurement?

- Embedding circular procurement in policies
- Early stakeholder engagement
- Identify hot spots, opportunities and gaps in the market
- Communicate your sustainability objectives
Embedding in the Tender Process

Rethink the need - do we need to own it, does it need to be brand new, latest spec, owned assets + local repair and service options

SoR - Allow for innovation but require minimum circular capabilities

Early market engagement - Can suppliers offer circular solutions?

Move your procurement standard to circular
Benefits of circular procurement

Economic:
- Whole life value
- Cost control and savings
- Planning and forecasting
- Resilient and local supply chains
- Partnerships with suppliers

Environmental
- Circulation of materials reducing consumption of materials
- Reduction of waste
- Addressing issues such as deforestation, GHG emissions, water use

Social:
- Local supply markets
- Inclusive skills and training opportunities
- Third sector and supported businesses
The Supply Chain - Linear

Components

Assembly plant

Hub/Reseller

Institution

Dispose
Environmental Issues – eWaste
E-Waste and the Circular Economy

Extending useful life and extracting maximum value from devices is a key issue.

- Only 20% of e-waste generated is documented to be collected and recycled.\(^7\)
- The total value of all raw materials present in e-waste was estimated to be €55 Billion Euros in 2016.\(^2\)

Life Cycle Costs
IMPACTS OF THE ICT SUPPLY CHAIN

MINING
- Social impact
  - Consequences for the local population
  - Loss of access to land, water, food and income for local communities
  - Conflicts within communities and corruption
  - Criminalisation of social leaders and demonstrators
  - Human rights violations and (forced) migration
- Impact on climate & environment
  - Biodiversity loss and destruction of vulnerable ecosystems
  - Excessive water use, causing soils and rivers to dry out
  - Pollution of water, soil and air with toxic substances and heavy metals
  - Large CO₂ emissions

SMELTERS
- Lack of transparency
- Major environmental impact through the design of products that are difficult to repair or recycle and the use of low-quality materials

DESIGN

USE
- Social impact
  - Poor working conditions
- Impact on climate & environment
  - Air, soil and water pollution caused by uncontrolled processing
  - CO₂ emissions (emitter)

PRODUCTION
- Social impact
  - Low wages, long working hours and temporary contracts
  - Forced labour and no freedom of association
  - Violations of health and safety measures in the workplace
  - Exposure of workers to toxic substances
- Impact on climate & environment
  - Pollution of air, soil and water caused by the use of chemicals
  - Large CO₂ emissions

END OF LIFE
- Social impact
  - Poor working conditions
- Impact on climate & environment
  - Air, soil and water pollution caused by uncontrolled processing
  - CO₂ emissions (emitter)

E-WASTE
- Social impact
  - Poor working conditions
- Impact on climate & environment
  - Air, soil and water pollution caused by uncontrolled processing
  - CO₂ emissions (emitter)
Current Supply Chain Issues

- Price Stability
- Factory closures
- Unprecedented rise in demand
- Component shortages
- "Chipageddon"
Transition to Circular Economy

Raw Materials → Manufacture

Design → Manufacture

Employment

Manufacture → Reuse/Remanufacture

Reuse/Remanufacture → Recycle/Upcycle

Recycle/Upcycle → Waste

Waste → Consumption
Considering relevant actions

Price/Cost
Quality
Performance
Compliance

Net Zero
Circular Economy
'Local' benefits – SMEs & Third sector

Performance & Compliance may be key

does this preclude alternatives including refurbished/ remanufactured devices?
Strategic Options for Transition to Circular Economy

1. Challenge Manufacturers/Supply Base through Procurement
2. IT Recycling
3. Explore Feasibility of a Circular IT Shared Service
Scottish Public Sector Hardware Agreements

**BUYING OPTIONS**
Device as a service

**DESIGN**
Design For Circular Economy

**TAKE BACK SCHEMES**

**REUSE**
Remanufacture and reuse options encouraged

**SOCIAL**
Apprenticeships
Work with NGOs
The Waste hierarchy

Reduce
Rethink demand specification: what is needed? Could a product be replaced with a service, could ownership of this product be shared?

Re-Use
If a product is needed, its use phase and end-of-life must be considered (e.g. take-back schemes).

Recycle
If product cannot be re-used, ensuring that it is made of recyclable materials, and even better, made from recycled materials.

Recover
Can specify design for recovery in tenders, and procure the recovered products.
IT Recycling Framework Agreements

- Collection and treatment of IT hardware and electronics classed as redundant or waste
- Processing of hardware Removal of personal data and removal/ destruction of hard drives
- Innovative approaches including refurbishment and repair or more efficient recovery process
- Ability to obtain rebates for any products sold on for further use by the contractor
- Creation of social benefits and / or circular economy approach
CO2 Emissions for HP Elitebook 840 G8

330 (KG of CO2e) required per new laptop

<table>
<thead>
<tr>
<th>GHG % Of Total</th>
<th>New</th>
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<tbody>
<tr>
<td>Mainboard</td>
<td>24%</td>
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<tr>
<td>Solid State Drive</td>
<td>20%</td>
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<tr>
<td><strong>Use</strong></td>
<td><strong>15%</strong></td>
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<tr>
<td>Display</td>
<td>20%</td>
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<tr>
<td>Power Supply Units</td>
<td>8%</td>
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<td>Transport</td>
<td>5%</td>
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<tr>
<td>Chassis</td>
<td>3%</td>
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<tr>
<td>Battery</td>
<td>2%</td>
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<tr>
<td>Memory</td>
<td>1%</td>
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<td>Packaging</td>
<td>1%</td>
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<td>EOL</td>
<td>1%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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What is revolvit?

We are a shared services (not for profit) company

Our purpose is to work with our members to offer shared services that reduce our members carbon consumption

We will work with our members to identify the actual benefits achieved from our services be they environmental, economic or social
Supporting Climate Action

A 71% reduction in CO₂ emissions would be achieved for every device which is remanufactured as opposed to the purchase of a brand new device.

- 80 flights London to LA
- 41 flights London to Sydney

A

67%
Cost Savings

B

71%
CO₂ Savings

C

4 Jobs Created

CO₂ Emissions

Costs

Job Creation

Waste Production

Water
• Non-Profit Shared Service
• Environmental and Social benefits
• CO2 Savings
• Cost Savings
• Free Consultancy
Gift-tech Referral Process Tree

1. Community Partners: Promoting digital learning
2. Completion of Referral form to start process
3. Gift-tech team will acknowledge received paperwork
4. Referral application will be assessed by the Gift-tech team
5. Decision on approval will be made
6. Partner will be advised of the decision
7. Assets ready to be “gifted”
What will we cover?

- Assessing Impact Areas
- Circular Procurement projects – think big, start small
- Embedding circular Procurement in business as usual
- Endless Opportunities
- Q&A
GREENHOUSE GAS EMISSIONS OVER THE LIFETIME OF A COMMERCIAL BUILDING

Life-cycle impacts

- Raw Materials
  - Sustainable materials
  - Labour rights
  - Re-use/Recycle
- Processing/Delivery
  - Transport
  - Frequency of delivery
  - Carbon Offset
  - Minimise packaging
  - Reverse Logistics
- End of life
  - Reuse/recycle
  - Minimise harm
  - Refurbish/Redesign
  - Avoidance of Landfill
- Usage
  - Energy Efficiency
  - Lifespan
  - Consumables
  - Maintenance
  - Service Requirement
  - Adaptability
  - Reconditioning

Operational energy 24%

Other 6%

Shell & Core 19%

Category A

Fitout 8%

Category B Fitout 42%

Furniture 30%

REUSING AND REFURBISHING FURNITURE IN A NEW OFFICE

Public Health Wales (PHW) National Health Service (NHS) Trust, Wales

- Relocation to new 4,700m² open plan office in Cardiff bay in 2016

**Procurement objectives:**
- Reuse as much of the existing items as possible. This included repairing and refurbishing existing items where necessary and adding new elements as required by the design
- Encourage participation by social enterprises
- Outcomes-based approach

**Design Specifications:**
- Meet collaborative workspace requirements.
- Re-use as much of the existing furniture as possible and augment this with pre-owned items, with new furniture being the least favoured option.

**Outcome**
- Out of the 2,563 items used in the new office:
  - 45% of items were re-used
  - 49% of items were remanufactured
  - Only 6% of items were sourced from new stock
- In total, around 41 tonnes of waste were diverted from landfill, and the project saved around 134 tonnes of CO₂e (carbon dioxide equivalents) based on the:
  - Re-use of 729 office/meeting room desks (saving 50.04 tonnes of CO₂e)
  - Re-use of 979 office/meeting room chairs (saving 57.70 tonnes of CO₂e)
  - Re-use of 522 office pedestals (saving 20.67 tonnes of CO₂e)
  - 670 sqm of re-used carpet tiles (saving 5.7 tonnes of CO₂e)

Case Study

Recycle
Abertay University
- furniture gathered over 15 years recycled within the supply chain.
- 6,795 kg of furniture was diverted from landfill
- 7,150 kg/CO2e saved

University of Edinburgh
- 275 student task chairs
- >11,000 kg/CO2e saved

Edinburgh College
- 587 chairs & 178 Desks
- >30,000 Kg / Co2e saved

Re-use
Donation of exam furniture used for Covid testing and vaccination centres
- >26,000 kg/CO2e saved

University of Strathclyde
- 240 chairs refurbished. Saved £10K and 9,000 Kg of Co2e saved

University of Glasgow
- 60 conference chairs refurbished. Saved £4K and 2,400 Kg of Co2e saved

Refurbish
Edinburgh College
- 250 chairs refurbished. Saved £20K and 10,000 Kg/Co2e

University of Strathclyde
- 240 chairs refurbished. Saved £10K and 9,000 Kg of Co2e

University of Glasgow
- 60 conference chairs refurbished. Saved £4K and 2,400 Kg of Co2e

It’s not added on, it’s built in
- Level of recycled components stated for each core product item
- Contractors are encouraged to implement circular economy principles throughout the delivery of the Framework Agreement
- Contractors are challenged to reuse and recycle redundant furniture -take-back schemes and recycling services available for all lots
- Refurbishment/Re-modelling and Remanufacturing services available for all lots
**The next step.....**

**Sustainable Furniture Framework FFE2008 NE**

- Framework commenced 14th Feb 2022 and runs for two years with option to extend

- Three main lots:
  - Lot 1 - Circular Economy Considerations
  - Lot 2 - Supply and Installation
  - Lot 3 – Specialist

- Circular Economy Considerations sub lots
  - 1a Circular Economy Considerations - Refurbishment and Repair
    - 8 regional lots, offering: take-back, refurbish, refinish, reupholster, repair, reuse, repurpose, recycle.
  - 1b Circular Economy Considerations - Sustainable Furniture Design for Projects
    - Provide interior design and furniture layout service. Supply furniture (prioritise customer’s existing stock plus that is available for refurbishment, reuse, repair, repurposing, reinstalling; then supply from someone else’s surplus products; only then supply virgin product). take-back surplus product for repair, reuse, repurpose or recycle. Install furniture to project.
  - 1c Circular Economy Considerations - e-Marketplace
    - Dedicated consortia e-Marketplace for refurbished furniture which includes distribution logistics utilizing the contractor’s own e-Marketplace solution
  - 1d Circular Economy Considerations - Furniture as a Service (FaaS)
    - Short- and long-term leasing

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<thead>
<tr>
<th>1a Circular Economy Considerations - Refurbishment and Repair</th>
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<tbody>
<tr>
<td>1. Workscape Ltd</td>
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<td>2. Crown Workspace</td>
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<td>3. Right Green Recycle</td>
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<td>4. Rype Office Ltd/John Pulsford Associates Limited*</td>
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<td>* Appointment varies by lot</td>
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**Framework Manager** s.wells@neupc.ac.uk
Circular economy options include

- Level of recycled components against each product of the price list – product information includes details of the materials used, the level of recycled content/materials used in product, the level of product that is recyclable, as well as the estimated lifespan of the flooring product.

- Take-back policy for redundant carpets, options include:
  - Repurposing – Cleaning and reuse of used carpets
  - Donations to Charities & the social sector
  - Recycling into new floorcovering products, plastic composite products & construction materials
  - Energy & Material recovery through certified cement industry and refuse derived fuel reprocessing centres

- Regional lots for refurbishment and repair services
EXPLORE WHAT'S HAPPENING IN THE MARKET – SUPPLIER SPECIFIC OFFERINGS

Save money and the environment with Back to the Floor

Back to the Floor is a FREE scheme which reprocesses installation off-cuts of Forbo’s Flotex, Eternal, Sphera and Sarlon smooth sheet vinyl, Allura LVT and Novilon and Novilux cushioned vinyl, Tessera carpet tile and Marmoleum products. Material is collected in small bags and placed in bulk Back to the Floor bags before being collected by Back to the Floor representatives to be recycled.

How does it work?
• Phone 0161 925 8760 for bulk bags/polythene bags
• Collect off-cuts in colour coded polythene bags to keep the material clean and dry
• Place the polythene bags into the corresponding bulk bag and palletise
• When 1 or more bulk bags are full, phone Back to the Floor on 0161 925 0760 to arrange collection
• You will receive a certificate of commitment for recycling

Chris Yeomans, Educational Arts and Crafts with Marmoleum off-cuts in bulk bags ready for collection.

https://www.forbo.com/flooring/en-uk/creating-better-environments/px9vbu

CREATING BETTER ENVIRONMENTS

OUR FOOTPRINT

How it’s made

Forbo’s Floor is made from sustainable materials

100% of tessera carpet tiles are made from sustainable materials

67% recycled content in floxet® tiles

marmoleum® is made from 97% natural materials

<60% recycled content in the backing of our vinyl ranges

<70% recycled content in the backing of westbond® carpet tiles

>70% recycled content in the backing of nuway® tiles

70% of all materials and sheet vinyl are made from recycled materials

100% of all flotex product and wallcovering tiles are made from recycled materials

All flotex products sold and made in the UK are made from 35% recycled materials

<65% mineral content in wallcovering tiles is installed

<94% of all products are made from 100% sustainable materials

<50% of all packaging is recycled

marmoleum® is biodegradable in a controlled environment

marmoleum® is biodegradable in a controlled environment

marmoleum® is biodegradable in a controlled environment

marmoleum® is biodegradable in a controlled environment

Nuway® / Nuwax® mats are reversible, effectively doubling their life

Non-slip layers in wallcovering tiles can be easily removed to recycle or repurpose

Allura LVT tiles can be easily removed to recycle or repurpose

<50% less CO₂ emissions from marmoleum® than other resilient floor coverings

94% of all products are made from 100% sustainable materials

50% LESS CO₂ emissions from marmoleum® than other resilient floor coverings

100% of our packaging is recycled

marmoleum® reduces the growth of bacteria by 94.5% and other bacteria

Allura LVT tiles can be easily removed to recycle or repurpose

<50% less CO₂ emissions from marmoleum® than other resilient floor coverings

100% of our packaging is recycled

yuXY.png

Your footstep

How it performs

https://www.forbo.com/flooring/en-uk/creating-better-environments/px9vbu
ENDLESS OPPORTUNITIES

EFM1031 AP - Trade Materials (SXL 0717)
- The Framework offers the ability to buy recycled paint and to recycle paint and paint cans.
- Paint disposal schemes available for most Contractor

JAN1012 AP - PPE, Work & Sportswear
- Reusable and machine washable masks
- Level of recycled components stated for each core product item
- Items marked as recyclable
- Contractors are encouraged to implement circular economy principles throughout the delivery of the Framework Agreement
- Contractors offer a take back and recycling service
  - Donate returned jackets clothing, and boots / shoes to homeless shelters and / or local clothing charitable organisations.
  - Donate returned / out of date Hard Hats to local charities to turn into hanging baskets.

EFM1042 AP - Road Surfacing Services
- Ability to specify use of recycled products
  - Dundee & Angus College
    - Carpark and main entrance route
    - MacRebur product using hard to recycle plastics
    - Offers 30 year guarantee
    - Saved approx. 1,600 Kg / CO2e compared to traditional asphalt material

EFM1027 AP - Waste Management Services
- Specialist lots for Food waste & redundant IT & Electronics products

JAN1007 AP - Cleaning materials & Chemicals
- Take back collection and re-use service for 5 litre and larger containers - closed loop recycling

EFM1036 AP - Sustainable Timber
- Take back service for re-use and recycling of redundant timber products and end cuts
Q & A SESSION