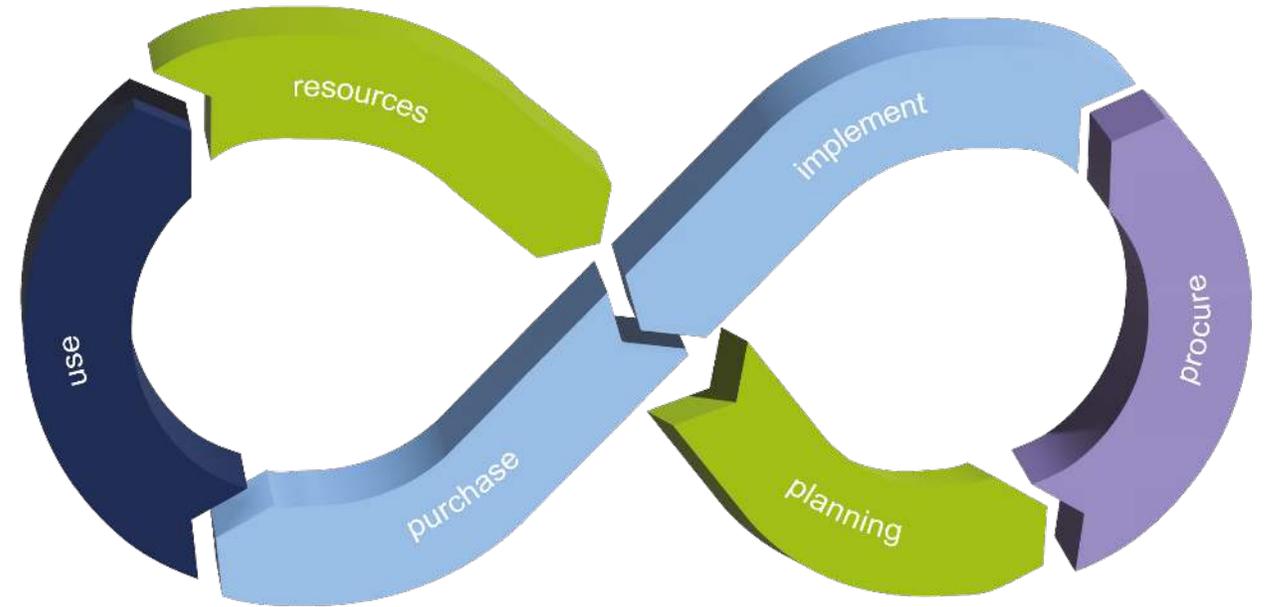


ChemClimCircle approach in procurement areas



Module 4



Co-funded by the European Union



Stockholms stad



CIRCULAR ECONOMY

ChemClimCircle



The project ChemClimCircle is co-funded by the INTERREG Baltic Sea Region Programme of the European Union.

Product group guidance

Packaging

Products containing plastic

Textiles

Furniture

Food and catering

Cleaning agents and services

Electric and electronic equipment

Examples

Packaging

○ Function: to protect goods packed

- Sales or primary packaging
- Secondary or group packaging
- Transport (tertiary) packaging

○ Material types

- Wood based (paper, cardboard, etc), plastic, metal, glass, and different niche materials with very specific functions



Packaging – Problems, conflicts and synergies in ChemClimCircle

ChemClimCircle aspects	Problems
 	<p><u>Weight</u></p> <ul style="list-style-type: none">• Plastic is very light weight and durable• Glass – heavy, fragile but multiuse and less hazardous substances than plastic• Wood based materials eg. cardboard - lightweight option• Reduction of packaging materials where possible is reasonable.
  	<p><u>Material contents of plastic packaging</u></p> <ul style="list-style-type: none">• Packaging plastics may contain hazardous substances, which is especially important for food contact materials.• Such content also makes the material unfit for recycling.• PE, PP and PET are the most commonly recycled and are least associated with hazardous chemical content.
	<p><u>Single-use problem of packaging</u></p> <ul style="list-style-type: none">• Packaging – often thrown out after the first use.• There are different potentials for recycling of packaging, depending on material.• Paper and cardboard recycling helps both climate and circularity.

Packaging: ChemClimCircle recommendations

ChemClimCircle aspects	Recommendations
	<ul style="list-style-type: none">• Prefer multi-use packaging over single use packaging• Prefer natural packaging materials (cardboard, wood, paper) over plastic/laminated materials• If plastics – prefer PE, PP and PET
	<ul style="list-style-type: none">• Is there a recycling infrastructure is available for packaging materials?• Demand packaging materials that are either made from mono-materials or materials that are suited for the collection and recycling systems.
	<ul style="list-style-type: none">• Identify packaging reduction options by buying in larger packs or bulk

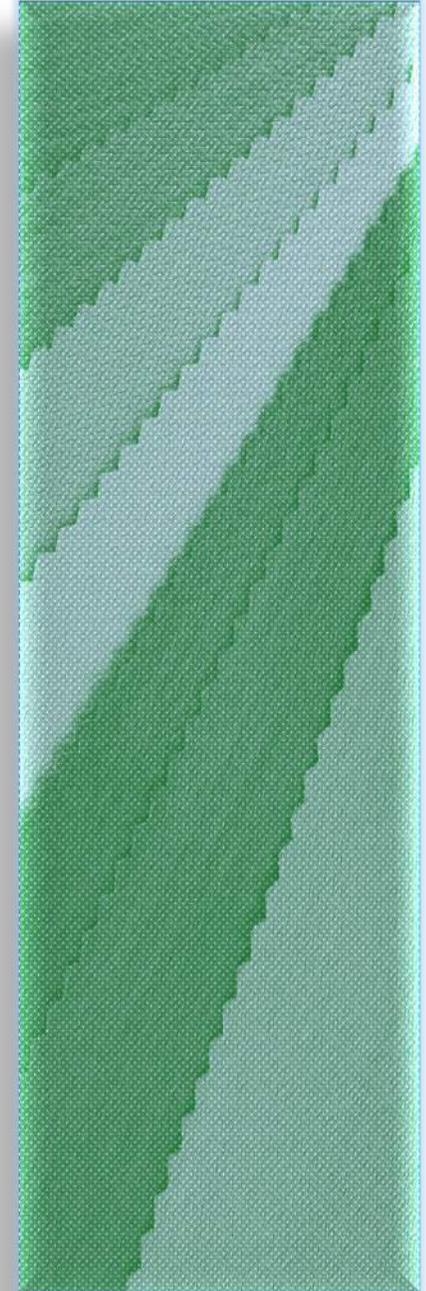
Textiles

Purchasing items:

- Professional work clothing and shoes for many different municipal units;
- Bed linens, towels, pillows, duvets, and mattresses;
- Interior textiles present in items such as furniture, curtains, tablecloths, and pillowcases.
- Laundry and cleaning services for textiles, including rental garments and other textiles.

Environmental problems:

- Chemical use: pesticides for cultivation of cotton and processing chemicals
- End-of-life for textiles - landfill or as waste incineration
- The chemicals affect the ecosystems, factory workers, wearers and the water environment.



Textiles: Problems, conflicts and synergies in ChemClimCircle

ChemClimCircle aspects	Problems
 	<ul style="list-style-type: none">• Synthetic fibres such as polyester, acrylic and nylon are plastic materials mainly derived from fossil sources.• The cultivation of natural fibres like cotton may involve the use of pesticides and have extensive water demand.• Both synthetic and natural fibres require a variety of chemicals for preparation and dyeing processes.• Energy is required to produce all these textile related chemicals.
	<ul style="list-style-type: none">• Synthetic fibres shed microplastic particles during wear and washing
	<ul style="list-style-type: none">• Textiles made from fibre blends can be challenging to recycle

Textiles: ChemClimCircle recommendations

ChemClimCircle aspects	Problems
	<p>Choose the following options where possible:</p> <ul style="list-style-type: none">• recycled textiles, or with partial recycled content• eco-labelled natural fibres• mono-fibres and textiles without print are preferred for the textile to be recyclable
	<p>Assess what the need is and for which user group within the municipality.</p> <p>Important</p> <ul style="list-style-type: none">• for textiles that come into close contact with the skin,• which are used by children.
	<ul style="list-style-type: none">• Consider if textiles can be purchased as a rental service agreement.• Make choices for the maintenance of the textiles such as laundry* and mending of zippers, holes, and faulty seams.

* See in the *Cleaning products and services section*

Textiles: ChemClimCircle recommendations

ChemClimCircle aspects	Problems
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* See in the Cleaning products and services section

Plastic containing products

Purchasing items:

- Single use plastic containing articles (medical supplies, incontinence articles, diapers, waste bags etc).
- Office supplies (folders, pens, rulers, erasers etc).
- Textiles and furniture.
- Workwear and shoes.
- Kitchen utensils*
- Toys and art materials for schools, kindergartens etc.

Environmental problems:

- Plastics have a practical use in many products, both household and industrial
- Single use plastic items polluting the environment, both land, air, streams, seas, and oceans – global problem
- The use of finite fossil sources for the manufacture of plastic materials
- It is a material that can be both long lasting and very short-lived
- Long-lasting plastic materials can constitute a problem since some contain up to 70% of added hazardous substances



Plastic containing products: Problems, conflicts and synergies in ChemClimCircle

ChemClimCircle aspects	Problems
	<ul style="list-style-type: none">• Plastics often contain chemical additives, such as plasticizers, stabilizers, and flame retardants• Plastics can break down into microplastic particles
  	<ul style="list-style-type: none">• Different types of plastic have different properties. Some plastics that are better from a chemical perspective are also better from a circular view: Polyethylene (PE), polypropylene (PP) and polyethylene terephthalate (PET).• PVC is not suited for recycling - contains hazardous chemicals
  	<ul style="list-style-type: none">• Single-use plastics have a very short lifespan, leading to frequent disposal and waste generation.• Multiple-use plastics have a longer lifespan

Plastic strategies can be effectively implemented by using public purchasing



Examples of plastic strategies encompassing various ways how to reduce plastic and promote more sustainable use of plastic, see <https://plasticsmartcities.org/>

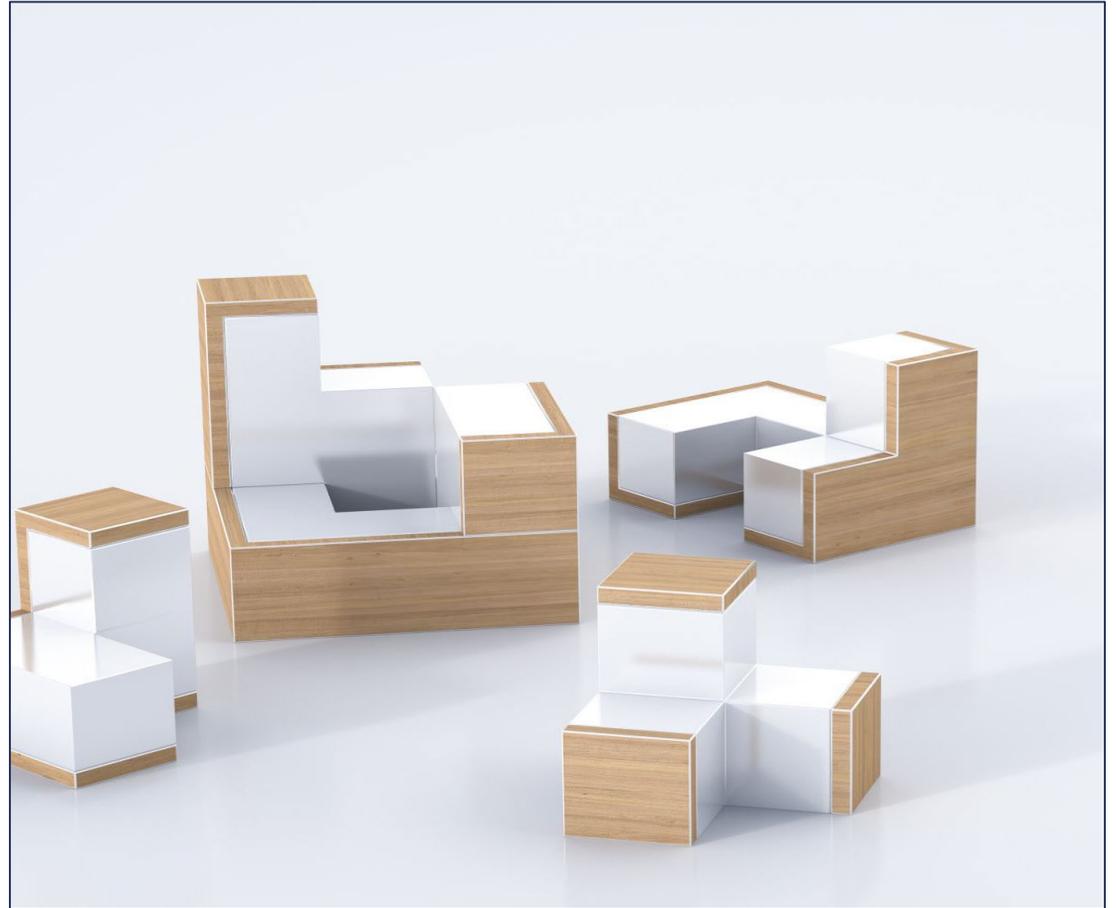
- Several Swedish cities have strategies for use of plastic materials which all have similar content, such as:
- Investigate the need for plastics before each procurement
- Replace or complement single-use products with reusable alternatives
- Request products made with materials other than plastics
- Request products made with recycled plastics
- Request products made with bio-based plastics
- Set requirements to ensure that the plastic that is purchased does not contain harmful substances
- Set requirements to ensure that the plastic that is purchased is recyclable
- Avoid plastic advertised as compostable

Plastic containing products: ChemClimCircle recommendations

ChemClimCircle aspects	Recommendations
	<ul style="list-style-type: none">• Natural materials can be better choices than plastics in certain applications: wood, bamboo, stainless steel, or glass.• Natural materials might also have a lower impact on climate, like wood, which sequesters CO₂ when growing.• When selecting the assortment for the procurement, investigate if there are alternatives to plastic materials.
	<ul style="list-style-type: none">• Select items made from the plastics that are better from a chemical perspective (Polyethylene (PE), polypropylene (PP), and polyethylene terephthalate (PET)).• Avoid Polyvinyl chloride (PVC) as much as possible.• Avoid plastic materials which are advertised as compostable if there is no suitable industrial composting system available in your region.
	<ul style="list-style-type: none">• Change from single-use to multiple-use items to achieve a synergy, less plastic and less CO₂ footprint and a more circular approach.

Furniture

- Furniture includes a wide range of material types, both natural and synthetic.
- Depending on the materials used, the environmental and health impact can vary.



Furniture: Problems, conflicts and synergies in ChemClimCircle

ChemClimCircle aspects	Problems
	<ul style="list-style-type: none">• Circulating old furniture has chemical risks but gives positive circular and climate-neutral effects.
	<ul style="list-style-type: none">• Newly manufactured furniture impacts indoor air quality due to emissions of Volatile Organic Compounds (VOC)
	<ul style="list-style-type: none">• Wood is a common material in furniture. Although being a natural material, wood for interior use is often processed with chemicals (paints, lacquers etc.). A conflict may arise from use of these chemicals, but enhancing the lifespan of the furniture.

Furniture: ChemClimCircle recommendations

ChemClimCircle aspects	Recommendations
	<p>Choose eco-labelled furniture and/or follow eco-label criteria</p> <ul style="list-style-type: none"> The Project's own investigations showed that the criteria of the Nordic Swan were the most comprehensive of all in all three ChemClimCircle aspects. Although not many eco-labelled furniture items exist on the market, a few selected criteria can be taken from the requirement documents and used in the procurement of furniture.
	<ul style="list-style-type: none"> Set demands for the possibility to buy refurbished furniture. The design of the furniture should allow for reuse and recycling. Set criteria for warranty, availability of spare parts and circular design, to prolong the lifespan and durability of the procured furniture
	<ul style="list-style-type: none"> Set criteria on environmental and health properties of chemicals used in furniture
	<p>Use pre-made criteria</p> <ul style="list-style-type: none"> Mobelfakta (https://www.mobelfakta.se/about.html and Swedish National Agency for Public Procurement). EU Green Public Procurement criteria for Furniture. Link: https://circabc.europa.eu/ui/group/44278090-3fae-4515-bcc2-44fd57c1d0d1/library/0788fd30-083f-4f9e-ba9e-86e9e432e822?p=1&n=-1&sort=name_ASC. Nordic Swan. Furniture and fitments. Link: https://www.nordic-swan-ecolabel.org/criteria/furniture-and-fitments-031/)

Furniture: ChemClimCircle recommendations

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Food and catering

- Food production is associated with various environmental aspects - energy use for farming and transportation of feed and goods, land use or land-use change, water use, water pollution and pesticide use
- Aspects of the products can differ substantially and influence health and environment in certain ways:
 - animal or plant based, locally produced,
 - imported over large distances,
 - ultra-processed, or unprocessed.



Food and catering: Problems, conflicts and synergies in ChemClimCircle

ChemClimCircle aspects	Problems
	<ul style="list-style-type: none">• Use of antibiotics, pesticides and chemical fertilizers in many food product groups (meat, milk and cheese, eggs, fruit and vegetables, bread and cereals, oils and fats, coffee, and tea). These chemicals can remain in the food items and spread to the environment.
	<ul style="list-style-type: none">• Animal-based food production contributes to more greenhouse gas emissions, primarily methane and nitrous oxide, as well as larger land and water use, compared to plant-based alternatives
	<ul style="list-style-type: none">• Reducing food waste is important for reducing environmental impact

Food and catering: ChemClimCircle recommendations

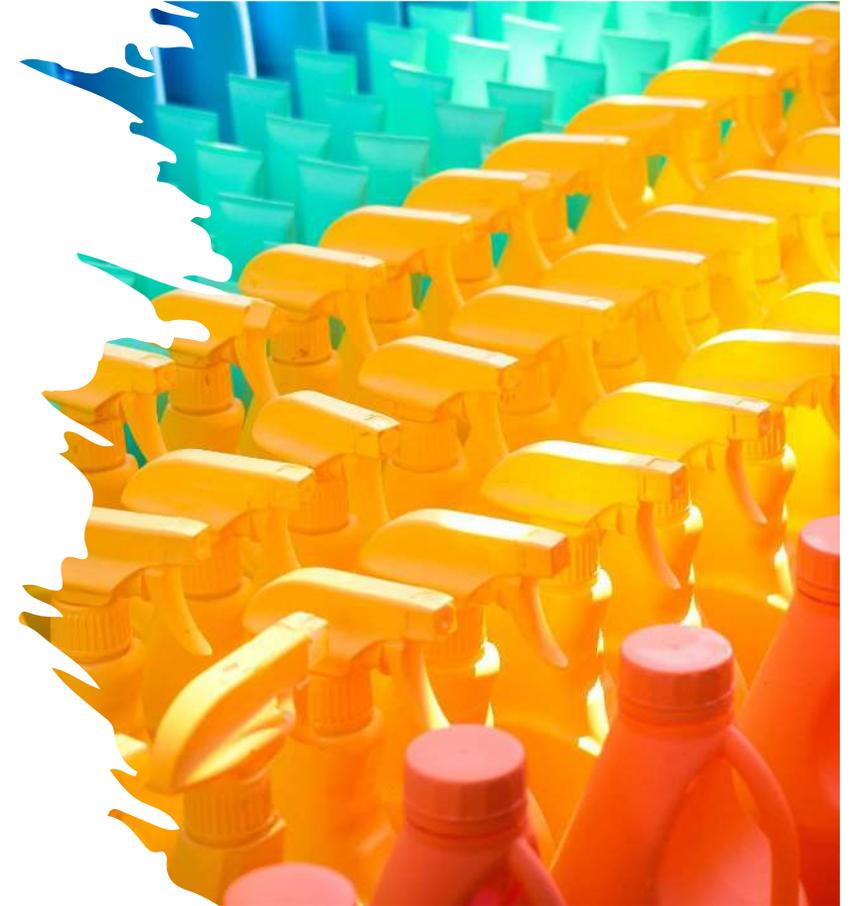
ChemClimCircle aspects	Recommendations
 	<ul style="list-style-type: none">Choose organic food products. For verification, use the established eco-labels: EU organic label (the leaf), or the equivalent.
 	<ul style="list-style-type: none">Choose natural materials like steel, glass and wood for kitchen utensils and other food contact materials (FCM) in the municipality's own kitchens and catering services.
	Assess the packaging sizes needed: larger packs can reduce the amount of packaging materials and make the cooking procedures easier in large kitchens.

Additional information: Motiva (2023).

https://www.motiva.fi/files/21421/Guide_for_the_Responsible_Procurement_of_Food_2023_FINAL.pdf

Cleaning products and services

- Procurement can help to reduce both health and environmental impacts
- There is a broad EU market for private, institutional, and industrial cleaning products and **good coverage of eco-labelled products**
- The reduction can be achieved through using appropriate dosages or proper cleaning techniques and new types of equipment



Cleaning services: Problems, conflicts and synergies in ChemClimCircle

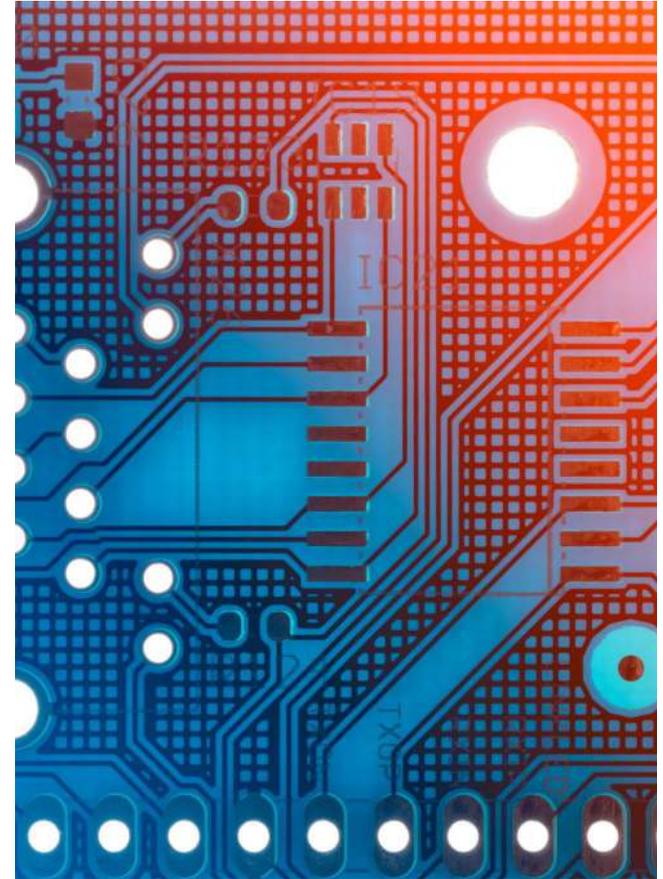
ChemClimCircle aspects	Problems
	<ul style="list-style-type: none">• Chemical content in the cleaning products can be harmful for health and the environment. Eco-toxicity, dermal contact (health), and release in the water are important aspects.
	<ul style="list-style-type: none">• A sourcing of raw material (e.g. fossil raw materials or palm-oil) for chemical products, e.g. palm oil the sustainability of production is very important due to deforestation
	<ul style="list-style-type: none">• There are large volumes of plastic packaging for cleaning products

Cleaning services: ChemClimCircle recommendations

ChemClimCircle aspects	Recommendations
	<ul style="list-style-type: none">• Avoid products that do not deliver any necessary function, for example fabric softeners or air fresheners.• Reduce the range of products used. It is often enough with one all-purpose cleaning product, a sanitary facility cleaning product, floor cleaning/polishing product as well as laundry and dishwashing detergents.• Require that detergents and soaps do not contain microplastics.• Investigate if it is possible to reduce the need of chemical cleaning products by using other cleaning methods such as water, steam, or de-ionized water etc.• Demand information on ingredients from the supplier, whether they use the product as service provider or supply the product directly to the municipality. Ensure that there are material safety data sheets for each product, this is demanded by EU legislation.• Use eco-labelled products or use ready-made criteria from the National Agency for Public Procurement in Sweden to limit environmentally hazardous substances in the products. Detailed criteria are available here: https://www.upphandlingsmyndigheten.se/en/criteria/cleaning-and-chemicals/chemical-technical-products/
	<ul style="list-style-type: none">• Demand clear procedures and training, of the staff employed in the service, including cleaning methods and dosage of the chemical products as well as sorting of empty packaging for recycling.
	<ul style="list-style-type: none">• Request re-usable and refillable packaging choices when such are available on the market. Choose larger volume canisters to avoid unnecessary packaging.

Electric and electronic appliances

- Large range of products: mobile phones, computers, televisions, fridges, household appliances, lamps, also medical devices, and photovoltaic panels.
- The most significant ChemClimCircle aspects for EEE are:
 - Extension of the lifetime of the equipment
 - Energy consumption during the use phase
 - Content of hazardous substances



Electric and electronic appliances: Problems, conflicts and synergies in ChemClimCircle

ChemClimCircle aspects	Problems
	<ul style="list-style-type: none">• Valuable materials: plastics and valuable and rare Earth metals are common in EEE.• If products are used longer, less new rare Earth metals needed.
	<ul style="list-style-type: none">• Hazardous chemicals might be present in EEE: flame retardants, lead, mercury, cadmium, highly fluorinated substances (PFAS) and phthalates as well as printer inks
	<ul style="list-style-type: none">• Recycling old/invalid EEE can release the contained hazardous substances.• Less hazardous substances are present in the discarded products – it makes it easier to recycle with less risk of negative effects on human health and environment, and less circulation of these substances into new articles
	<ul style="list-style-type: none">• Energy use is an important environmental impact

Electric and electronic appliances: Problems, conflicts and synergies in ChemClimCircle

ChemClimCircle aspects	Problems
	<ul style="list-style-type: none"> • Valuable materials: plastics and valuable and rare Earth metals are common in EEE. • If products are used longer, less new rare Earth metals needed.
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	<ul style="list-style-type: none"> • Energy use is an important environmental impact

Electric and electronic appliances: ChemClimCircle recommendations

ChemClimCircle aspects	Recommendations
	<ul style="list-style-type: none">• Use eco-labels. There are many in the EEE category.• There are energy labels (e.g. Energy Star) and environmental labels that go beyond energy requirements: TCO, German Blue Angel, Nordic Swan and EPEAT.
	<ul style="list-style-type: none">• Set criteria for warranty, availability of spare parts and circular design, together with the possibility for repairs within the contract to prolong the lifespan and durability of printers, computers, phones and other equipment
	<ul style="list-style-type: none">• Buy refurbished equipment and/or set criteria for a system to circulate or refurbish ICT equipment for either use in the own organization or for resale outside the organization (including clearance of all saved data on devices).

Examples



Examples from Smiltene municipality

Procured goods or services			
<p>Rental, replacement and cleaning of towels (cotton), carpets (nylon, micro nylon, rubber or cotton), scrubbers belonging to the contractor</p>	<p>Cleaning agents Requirements for cleaning agents are set in the tender. Contractor has to inform on the cleaning agents used.</p>	<p>Indirect impact – try to change carpets and mops less often, depending on need – saving on cleaning, energy etc.</p>	<p>Carpets need to be very durable. Change of carpets depends on intensity of use. Intensity of use has been estimated and the conditions set in the tendering documentation.</p>
<p>Dairy products (milk, kefir, sour cream, sweet cream, cottage cheese, butter, processed cheese, cream cheese, cheese, yogurt).</p>	<p>For milk and kefir, at least 50 percent of the total quantity must be produced according to organic farming methods, in accordance with Council Regulation (EC) No 834/2007 of June 28, 2007. There is no component of toxicity. However, the material used for product packaging could be an aspect to consider in future procurement evaluations.</p>	<p>There is a maximum distance for the delivery of food products from the production site to the purchaser (250km). It is also stipulated that delivery transport vehicle must comply with at least EURO5 emission standard.</p>	<p>We have already conducted research, and to reduce packaging volume, it is planned that certain products will be delivered in larger packaging sizes.</p>

Example from the City of Stockholm (1)

Procured goods or services			
<p>Workwear textiles and shoes for both indoor and outdoor use, rugs. Circulation laundry services</p>	<ul style="list-style-type: none"> ○ PFAS is present in some of the outdoor clothes and shoes. Other chemicals which are mentioned in the set criteria also have a risk of being present. ○ For the workwear and shoes, one focus was content of highly fluorinated substances. Criteria were set for information of content of any PFAS in the webshop. Other criteria were set for some PFAS which should not be present at all (above 0,1% in total for the textile or shoe material). 	<ul style="list-style-type: none"> ○ Criteria for transportation of goods from the supplier to the units were applied. ○ There are also newer types of materials such as different viscose textiles (Lyocell, Tencel etc) which might have lower climate impacts than the usual polyester, nylon and cotton. 	<ul style="list-style-type: none"> ○ Shift more to renting of clothes with repair services included and used by the units using the clothes were planned to be included in criteria. ○ Some criteria including a dialogue during the contract period concerning the repair and retake, including reuse of textile materials by the supplier.

Example from the City of Stockholm (2)

Procured goods or services			
Sports equipment and utensils	<ul style="list-style-type: none"> ○ Analysis of mostly plastic materials showed that the supplier had some issues to correct since some of the items were illegal to sell within the EU due to the chemical content. ○ Criteria were set for contents in plastics, textiles and leather. ○ Phthalates in plastics for which a criteria on presence of SVHC phthalates was set at lower than 0,1%. ○ Chlorinated paraffins were also included and restricted at the same level of content. ○ Criteria for PFAS were applied. ○ Antimicrobial substances and flame retardants were regulated by the set criteria, as was surface treatment chemicals for wood and certain metals. ○ Material types should be identified, for example plastic types, such as PVC, PP, PE, not only "plastic", should be stated. ○ PVC plastics should be avoided but were still allowed since some areas of the assortment are only available with that type of plastic. 	<ul style="list-style-type: none"> ○ Criteria for transportation of goods from the supplier to the schools were applied 	<ul style="list-style-type: none"> ○ In this case, the focus was follow up and compliance check on chemical content. A potential for climate and circularity aspects lies in offering a service for repairs of the equipment as well as recycling of materials from equipment which has reached it's end of life.

Example from the City of Stockholm (3)

Procured goods or services			
<p>Disposable gloves</p> <p>23 million gloves bought annually of which about half was PVC, some PE and the majority of the rest nitrile rubber.</p>	<ul style="list-style-type: none"> ○ The material flow in this category is currently high and about half of these gloves are made from vinyl (PVC). Plasticizers which are present in the vinyl material at up to 45% of the material weight leak from the material and can be hazardous to humans and environment. ○ There is an innovative glove which uses less material and the production process is less CO₂ demanding. This glove has an LCA and the City wanted to welcome more of these types of gloves on the market. ○ The focus was climate but it has a positive effect on chemical content as well since the new type of glove is made from nitrile rubber and not vinyl, meaning that the risk of harmful plasticizers is much less. The new type of nitrile is also free from allergenic accelerators which have previously been an issue with nitrile for some users. 	<ul style="list-style-type: none"> ○ Disposable glove with lower climate impact: The following applies to offered disposable glove with third-party verified climate calculation and climate impact with < 0.05 kg CO₂e per glove. ○ The calculations of climate impact must be based on life cycle analysis according to ISO 14040-44, and reported according to the standard for type III declarations ISO 14025, climate declaration according to ISO 14067 or equivalent standards. ○ The glove has a 27% lower CO₂ impact. ○ Transport aspect was included in the criteria. 	<ul style="list-style-type: none"> ○ A lot of this use is unnecessary and behaviour change is needed in order to use such gloves only when required. ○ Development for recycling of Nitrile rubber material is needed ○ At the same time new glove material has good properties regarding protection and strength.

Example from the City of Stockholm (4)

Procured goods or services			
<p>Coffee and water machines</p> <p>Coffee machines and water machines. Tea, coffee, milk and sugar is also included in the contract, as well as some single use items (mugs and stirrers/spoons).</p>	<ul style="list-style-type: none"> ○ Disclosure of material types in contact with the fluids (food contact materials), substances which should not occur. ○ Ecolabelled coffee and tea, milk and sugar. ○ There is a lot of different parts coming into contact with the drinks in the machines, since the coffee is sour and hot, substances from these materials might leak into the drink. The water machines might also add unwanted substances to the water, but probably at a lesser rate since the water is cool. ○ This is a complex procurmenet, including machines, cleaning requirements and food contact materials, so each area had their own chemical requirements ○ The supplier must be able to report the material the component is made of for each component in the beverage vending machine that comes into contact with the beverage. ○ All coffee, tea and cocoa offered by the supplier must be Fairtrade or equivalent and organic (EU organic, REQUIREMENTS or equivalent). 	<ul style="list-style-type: none"> ○ Transportation criteria are included in the tender. ○ The coffee machines have maximum energy consumption requirements in the tender, as there are other energy requirements. 	<ul style="list-style-type: none"> ○ We have used criteria to open for refurbished machines in the assortment as well as reuse of machines after the contract period. ○ All products containing forest raw materials must be responsibly produced. Stirring sticks and the paper in the cups delivered in the service must be labeled according to FSC.

Example from Taurage municipality (1)

Procured goods or services			
<p>School supplies sets for pupils of Taurage, 1-12 grade students, including notebooks, paper, markers, paints pencils, etc. (18 objects)</p>	<ul style="list-style-type: none"> ○ Many ingredients can be toxic, which is especially relevant since these are school sets for pupils. In procurement documents it was clarified that some products must be non-toxic (e.g. watercolour sets, glue sticks), however it was found that some contain toxic chemicals (e.g. erasers contain PVC), for some it was impossible to find out the ingredients (e.g. plasticine). ○ Felt tip pens must be non toxic, watercolour paint set must be made from natural ingredients; pencils must be made from recycled materials) ○ Biodegradable erasers (without PVC) ○ Bee wax instead of paraffin wax 	<p>Criteria for energy efficiency can be developed and applied for the next procurements.</p>	<ul style="list-style-type: none"> ○ No/less packaging ○ Recycled materials (especially paper, non-bleached) ○ Packaging must be recyclable ○ Durability and multi-use criteria have been set ○ Pens made from recyclable materials: paper or plastic ○ Needs assessment should be made every year to see whether all the items must be bought again. Pupils could also be taught how to use items responsibly.

Example from Taurage municipality (2)

Procured goods or services			
<p>Public procurement procedures for the purchase of groceries for kindergarden “Pušėlė” . Kindergarden itself serves food to the children. Procurement includes meat and meat products, milk and dairy products, vegetables, eggs, grain products, berries and fruits, oil and fats, bread and pastries etc.</p>	<p>The total amount of products for the first half of this year is 12,415.50 kg, of which 7,548.50 kg are organic.</p> <p>The material used for product packaging could be an aspect to be considered in future procurement assessments.</p>	<p>Procurement documents includes the following requirement: the use of less electricity and/or the use of energy from renewable energy sources in the production, supply and use of the goods, services or works</p>	<ul style="list-style-type: none">○ The products are transported in small packages because the kindergarden does not have adequate space and refrigerators to store food in large packages. Organic products are brought three times a week. But we see that some products could be bought in the largest packs.

Example from the City of Tallinn

Procured goods or services			
<p>Office supplies</p> <p>Central procurement for all Tallinn City departments and organizations (including schools and kindergartens - 265 institutions of the City of Tallinn.</p>	<p>Paper has to be certified according to the EU ecolabel or equal I type ecolabel. The producer of the paper has to possess the ISO 9001, ISO 14001 or EMAS quality management system certificate.</p>	<p>The wood used to produce cellulose for paper production has to be from legal sources.</p>	<p>The same as in Column 2 (Chemical aspect)</p>

Example from the City of Helsinki (1)

Procured goods or services			
<p>ICT equipment</p> <p>The procurement covered computers and tablets, their lifecycle services and various accessories.</p> <p>The product range was defined to provide equipment for a wide range of applications. Almost all equipment is water and dustproof, with hard covers available for some equipment.</p>	<ul style="list-style-type: none"> ○ The production of ICT equipment and the equipment itself may contain harmful substances that are harmful to workers in the supply chain or end users of the equipment. ○ Reduce the presence of harmful substances in equipment and in the production chain that pose a risk not only to equipment users, but in particular to workers in the production chain, and collect and manage information on the presence of harmful substances. Harmful substances are defined here as SVHC substances of very high concern on the REACH Candidate List. 	<ul style="list-style-type: none"> ○ The greatest reduction in climate impact is achieved by keeping equipment in use for as long as possible. ○ Minimum battery life requirements were set for workstations and laptops. ○ Additional points were awarded for TCO and/or EPEAT certified devices. The supplier was also required to offer carbon compensated workstations to the subscriber during the period. 	<ul style="list-style-type: none"> ○ Equipment requirements were defined to support high-quality, durable equipment. ○ The supplier was obliged to maintain a buffer stock of equipment. When a person leaves the city's service, the equipment used by that person is returned to the supplier's buffer stock, from where it is circulated to the next user. The supplier is required to provide the customer with equipment from the buffer stock. ○ Extend the life of equipment (battery life, interchangeability and availability of spare parts, upgrades to equipment operating systems) ○ Responsible re-use of equipment (including what happens to it when it is decommissioned) e.g. ISO 14001 standard for recycling of technology equipment.

Supplier has to present an environmental work plan. The environmental plan will be reviewed at the first contract review during the contract period, after which the supplier will report on the implementation of the plan and its evolution once a year. Measures may also be developed in cooperation with the contractor.

Example from the City of Västerås

Procured goods or services			
<p>Cleaning products and utensils</p> <p>Chemical products for cleaning, washing, dishwashing, etc. Soft paper for example paper towels and toilet papers. Waste bags in plastic. Chemical products for cleaning</p>	<ul style="list-style-type: none"> ○ Especially the chemical products have component of toxicity. ○ Paper and plastic products may include a risk of toxicity in the production phase. ○ Perfume free policies apply in some parts of the municipality. ○ Criteria included: <ul style="list-style-type: none"> ○ Biodegradability of Surfactants ○ Bioaccumulation of Preservatives and Colorants ○ Health Hazard of Ingredients ○ Environmental Hazard of the Product ○ Sensitizing (Allergy-Inducing) Products ○ Perfume ○ Ergonomic and working health aspects were also included. Some examples are avoiding perfumes and allergenic products, avoiding corrosive products to protect skin, ergonomic cleaning mops, etc 	<ul style="list-style-type: none"> ○ Highly concentrated chemical products reduce transport needs and make cleaning more efficient, reducing need of water and energy. ○ Recycled materials reduce the need of raw material extraction – which is also positive for the climate 	<ul style="list-style-type: none"> ○ Paper and plastic bags could be more circular. We required that paper products and plastic bags should be made from recycled material sources. Next time we could set a minimum target for recycled content. ○ Re-use is not possible in this case. ○ It was positive to find eco-certified synthetic cleaning wipes and mops made from recycled material. ○ In future, the city wants to find more dish sponges from renewable sources. ○ Hard soap, instead of liquid soap, is not convenient in public areas. ○ The organisation is not ready yet to use washable dish cloths and sponges.

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Practical help

Source	Topic	Where to find
EU GPP criteria	General GPP criteria	https://green-business.ec.europa.eu/green-public-procurement/gpp-criteria-and-requirements_en
Mandatory and voluntary criteria in your country	Countries have different rules and regulations for GPP	Follow the national legislation in your country.
Eco-labels	We recommend using Type I Eco-labels. These will help you to define criteria or you can demand eco-labelled products.	<ul style="list-style-type: none"> • Nordic Swan Ecolabel https://www.nordic-swan-ecolabel.org/ • EU Ecolabel https://environment.ec.europa.eu/topics/circular-economy/eu-ecolabel_en • Blue Angel Ecolabel https://www.blauer-engel.de/en
Vlaanderen model for circular procurement:	A comprehensive model for circular procurement	https://aankopen.vlaanderen-circulair.be/en/getting-started/the-ambition-map
Chemical smart public procurement	A comprehensive guide for chemical smart public procurement. Contains detailed information on chemicals in articles and recommendations how to choose tox-free products.	https://thinkbefore.eu/en/guide-for-chemical-smart-public-procurement/
Motiva	Procurement advice and criteria can be found here on several product groups (in Finnish and partially in English)	https://www.motiva.fi/en/public_sector/sustainable_public_procurements
Swedish National Agency for Public Procurement	The Agency has ready-to-use procurement criteria and templates for various product groups (in Swedish and English)	The National Agency for Public Procurement (upphandlingsmyndigheten.se)
GPP information on construction materials and services	Follow this project to learn and use ChemClimCircle principles in construction materials and services	https://interreg-baltic.eu/project/nonhazcity-3/

Interactive questions



Reflecting on past experiences:

Have you already previously advanced ChemClimCircle in your procurements somehow?

In which product groups?

Describe what are most important ChemClimCircle aspects in 1-2 procurement cases you are working on?



Implementing ChemClimCircle in your current procurement:

- How can you incorporate ChemClimCircle approach into the procurement case you are currently working on?
- What requirements you would like to require from suppliers?
- Would that require more dialogue with suppliers?
- Consider addressing each component of CCC individually in your selected case- what are the issues and what can be done in requirements?



Utilizing expertise:

Whose (internal or external) expertise could enhance your procurement case?