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# PUBLIC PROCUREMENT FOR A CIRCULAR ECONOMY

Good practice and guidance



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This brochure was part of Contract No ENV.B.1/SER/2016/0049 between the European Commission and ARCTIK SPRL-Environmental Communications. It was authored by ICLEI - Local Governments for Sustainability.

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# INTRODUCTION

As the world population increases and economies rely progressively more on outside resources to meet their demand for energy, water and food among others, communities are under enormous pressure to find these resources and accommodate waste and emissions.

Within the current linear production and consumption economic model, only a small share of waste produced is reused, recycled or traded as secondary materials. The vast majority, including valuable and scarce materials, goes to landfill or is incinerated<sup>1</sup>. In light of finite resource flows, economies will no longer be able to rely on these linear production and consumption models. A circular economy is an alternative to this model. It aims to keep products and materials in the value chain for a longer period and to recover raw materials after the lifetime of products for their next use.

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## **P**UBLIC PROCUREMENT WITHIN A CIRCULAR ECONOMY: CIRCULAR PUBLIC PROCUREMENT

Public procurement refers to the process by which public authorities, such as government departments, regional and local authorities or bodies governed by

public law, purchase works, goods or services from companies.<sup>2</sup>

Green public procurement (GPP) is defined by the EU as “a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and

1. Waste potential! Towards circular economy in cities, 16th European Forum on Eco-innovation (2014). Available at: [http://ec.europa.eu/environment/archives/ecoinnovation2014/1st\\_forum/pdf/ecoap-16th-report.pdf](http://ec.europa.eu/environment/archives/ecoinnovation2014/1st_forum/pdf/ecoap-16th-report.pdf)
2. Further information on public procurement available at: [http://ec.europa.eu/growth/index\\_en](http://ec.europa.eu/growth/index_en)
3. Further information available at: [http://ec.europa.eu/environment/circular-economy/index\\_en.htm](http://ec.europa.eu/environment/circular-economy/index_en.htm)
4. Criteria developed to facilitate inclusion of green requirements in public tender documents. Available at: [http://ec.europa.eu/environment/gpp/eu\\_gpp\\_criteria\\_en.htm](http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm)

works with the same primary function that would otherwise be procured” (COM (2008) pg. 400 “Public procurement for a better environment”). To procure in an environmentally-friendly way involves looking beyond short-term needs and considering the longer-term impacts of each purchase. This includes questioning whether a purchase should be made at all.

Circular public procurement is an approach to greening procurement which recognises the role that public authorities can play in supporting the transition towards a circular economy. Circular procurement can be defined as the process by which public authorities purchase works, goods or services that seek to contribute to closed energy and material loops within supply chains, whilst minimising, and in the best case avoiding, negative environmental impacts and waste creation across their whole life-cycle.

## THE POLICY CONTEXT FOR A CIRCULAR ECONOMY

The EU Action Plan for the Circular Economy (2015)<sup>5</sup> has established a concrete and ambitious programme of action which will help to ‘close the loop’ of product lifecycles. It proposes actions to

keep resources in the economy and retain the value of these resources, which will contribute towards delivery of a sustainable, low carbon, resource efficient and competitive economy. This plan recognises public procurement as a key driver in the transition towards the circular economy, and it sets out several actions which the European Commission will take to facilitate the integration of circular economy principles in GPP. These include emphasising circular economy aspects in new or updated sets of EU GPP Criteria<sup>4</sup>, supporting a higher uptake of GPP among European public bodies, and leading by example in its own procurement and in EU funding.

Circular public procurement also has a role to play in achieving the Sustainable Development Goals, defined by the United Nations 2030 Agenda for Sustainable Development. In particular, Goal 12 - Responsible Consumption and Production - includes a specific target on promoting public procurement practices that are sustainable, in accordance with national policies and priorities.

In addition, several countries, regions, and cities have been developing their own circular economy strategies, and public purchasing is often emphasised by these as an essential tool for encouraging the transition to a circular economy.

## BENEFITS OF CIRCULAR PROCUREMENT

“In a circular economy, carbon dioxide emissions would halve by 2030 and resource consumption by cars, construction materials, real estate land, synthetic fertilizer, pesticides, water use, fuels and non-renewable electricity could drop by 32% by 2030 and 53% by 2050, compared with today”.<sup>5</sup>

A circular economy will retain more high value materials in the economy, increase the resilience of companies and economies to external shocks, incentivise innovation and support local labour markets. At a global scale, it has an estimated potential to add \$1 trillion to the global economy by 2025 and create 100,000 new jobs within the next five years.<sup>6</sup>

Public procurement can play a key role in transitioning to a circular economy. Including ‘circular principles’ into procurement practices can help public sector buyers take a more holistic approach to sustainability - from the first stages of a procurement to the end of product life - while also achieving potential savings.

5. From Rhetoric to Reality: The Circular Economy Index of Dutch Businesses (2016). Available at: <https://mvonederland.nl/sites/default/files/media/Circular%20Economy%20Index%202016.pdf>

6. Towards the Circular Economy: Accelerating the scale-up across global supply chains (2014). Available at: [http://www3.weforum.org/docs/WEF\\_ENV\\_TowardsCircularEconomy\\_Report\\_2014.pdf](http://www3.weforum.org/docs/WEF_ENV_TowardsCircularEconomy_Report_2014.pdf)

# CIRCULAR PROCUREMENT IN PRACTICE

When applying circular procurement in an organisation, there are a number of considerations to make. This section provides an overview of the practical approaches that can help to embed circularity into procurement processes.

## MODELS OF CIRCULAR PROCUREMENT

There are three types or 'levels' of models for implementing circular procurement. The first is at the 'system level', which concerns the contractual methods that the purchasing organisation can use to ensure circularity. This ranges from supplier take-back agreements, where the supplier returns the product at the end of its life in order to re-use, remanufacture or recycle it, to product service systems, where the contract provides both services and products. An example of a product service

system is a printing contract using a pay-per-copy model, in which the supplier provides all equipment, repairs, replacements and training rather than simply selling copy supplies.

The 'supplier level' model describes how suppliers can build circularity into their own systems and processes, in order to ensure the products and services they offer meet circular procurement criteria. 'Product level' is related to this, but is focused solely on the products that suppliers to public authorities may themselves procure further down the supply chain. It is important when undertaking circular procurement that both the supplier systems and product technical specifications are considered.

### CIRCULAR PROCUREMENT MODELS

#### 1. System level

- Product service system
- Public Private Partnership
- Cooperation with other organisations on sharing and reuse
- Rent/lease
- Supplier take-back systems including reuse, recycling, refurbishment and remanufacturing

#### 2. Supplier Level

- Supplier take-back system
- Design to disassembly
- Reparability of standard products
- External reuse/ sale of products
- Internal reuse of products

#### 3. Product

- Materials in the product can be identified
- Products can be disassembled after use
- Recyclable materials
- Resource efficiency and Total Cost of Ownership
- Recycled materials

(Source: SPP Regions Best Practice Report)

## ORGANISATIONAL POLICY FOR CIRCULAR PROCUREMENT

Creating a circular procurement policy or incorporating circular economy principles into

existing GPP or sustainable public procurement (SPP) policy can be an effective first step to ensuring it is visible as a priority. It is important that such policies define:

- What circular procurement means within the context of your organisation

- What products, services or departments it applies to
- What targets, priorities and timeframes are in place, and how these are monitored
- What other activities, such as training, support, and communication strategies, are or will be put in place
- Who is responsible for implementing the policy

There are opportunities to incorporate circular principles into the vast majority of procurement-related work however, it may be helpful to introduce them gradually at first. This can provide an opportunity to test approaches and provide an example to other departments, making a full roll-out at a later stage easier. It can also be more effective to focus initial resources on 'low hanging fruit'.

### **Integrating circular economy into procurement policy in Nantes, France**

As part of Nantes' Responsible Purchasing Promotion Scheme (RPPS), the metropolitan council created 11 'Action Sheets' for Procurement, including one on the Circular Economy. This presents a clear and simple break-down of the policy areas which the circular economy contributes to and what has been achieved to date. It also provides the strategic direction and operational targets for incorporating circular economy into procurement, and sets performance targets to be achieved by 2020. For example, by meeting operational targets supporting demonstration projects, optimising collection of small equipment and biowaste, and incorporating life-cycle assessments into procurement, Nantes aims to contribute to environmental targets at the national and local government level.<sup>7</sup>

### **Piloting circular procurement in the Netherlands**

In 2013, the Dutch Government established the Circular Procurement Green Deal to accelerate the transition to a circular economy. This programme brought together 45 public and private parties, and tasked each of them with carrying out two circular procurement initiatives in order to increase experience, share insights, and create a pool of good practice. Over three years, 80 circular procurement pilots were conducted and their lessons shared. The success of this programme resulted in the Dutch Government placing special emphasis on circular procurement and the consideration of life-cycle costs in its 2016 Roadmap to a Circular Economy. Moreover, it included an aim to raise the proportion of circular procurement to 10% by 2020.<sup>8</sup>



7. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue74\\_Case\\_Study\\_148\\_Nantes.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue74_Case_Study_148_Nantes.pdf)

8. More information available at: [http://www.scpclearinghouse.org/sites/default/files/eng\\_green\\_deal\\_circular\\_procurement\\_magazine.pdf](http://www.scpclearinghouse.org/sites/default/files/eng_green_deal_circular_procurement_magazine.pdf)

## STRATEGIC THINKING

One of the first practical steps towards circular procurement is to consider strategically how it can be integrated into existing procurement practices and systems.

Consider which are the critical points within a typical procurement process and what kind of circular procurement principles and practices make most sense. What role do procurement practitioners have in adopting circular practices and what influence does the public authority have on bidders? What is the scope of the circular procurement criteria and specifications?

### Rethink need

A logical first step in becoming more circular is identifying needs. This includes asking: 'what is actually needed?', 'does this require a purchase of a product, or can it be provided as a service?', 'is sole ownership or

access necessary, or can ownership be shared?'

Elements of procurement practices that require a change of thinking in order to shift to circular models and practices include:

- Considering a service instead of buying a product
- Focus on product design, its use phase and end-of-life (using buy-sell back, buy-resell and Product Service Systems)
- Engaging with suppliers and the wider market to identify circular solutions

Often what is needed is not a specific product, but the function it provides. Product service systems allow suppliers to pool products to satisfy more customer needs with fewer units, thereby reducing the environmental impacts of production. They can incentivise suppliers to increase efficiency, in order to reduce operating costs. And they can incentivise users to decrease usage, in order to save costs.<sup>9</sup>

### Replacing vehicle fleets with a car sharing service in Bremen, Germany

In 2013, after an initial pilot period, Bremen's Senate Department for Environment, Construction and Transport managed to reduce its CO<sub>2</sub> emissions from business-related travel while also lowering costs by replacing its own fleet of vehicles with membership to a local car-sharing service. The Department previously owned (or leased) a fleet of 11 cars, but the

utilisation rate was low, with most cars used less than three hours a day. By switching to a local car-sharing service with an online booking system, Bremen has access to a more flexible and efficient fleet of vehicles, including electric vehicles, and saves on costs in terms of servicing, parking fees and staff management time.<sup>10</sup>



9. Moving Towards Performance-Based Specifications in Public Procurement (IISD, 2013). Available at: [https://www.iisd.org/sites/default/files/publications/specs\\_public\\_procurement.pdf](https://www.iisd.org/sites/default/files/publications/specs_public_procurement.pdf)

10. More information available at: [http://www.clean-fleets.eu/fileadmin/files/documents/Publications/case\\_studies/Clean\\_Fleets\\_case\\_study\\_-\\_Bremen\\_Car-Sharing\\_integration.pdf](http://www.clean-fleets.eu/fileadmin/files/documents/Publications/case_studies/Clean_Fleets_case_study_-_Bremen_Car-Sharing_integration.pdf)

11. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue69\\_Case\\_Study\\_139\\_Scotland.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue69_Case_Study_139_Scotland.pdf)



## Exploring options

If it is decided that a purchase is necessary, considering the life-cycle impacts of a particular product can help you to identify where its environmental impacts can be improved via procurement. For example, is it made from an unsustainable resource? Does its production or

its transportation lead to pollution? Does it use a high amount of energy or water when in use, and can this be more efficient? Is it possible to reuse it at the end of its life? Can its design be influenced to reduce its sustainability impacts? Is there potential to support a broader circular economy ecosystem?

### Prioritising circular actions through Life-Cycle Mapping in Scotland

In 2016, Scottish Procurement established new framework agreements for the supply of ICT devices. Before releasing the tender, it conducted market engagement, and completed a Life-Cycle Impact Mapping exercise to identify areas to focus on with regards to environmental and socio-economic risks and

opportunities. As a result, the final tender included technical specifications on energy efficiency, product life-cycle, management of delivery fleet, innovative packaging, and end-of-life management, with a particular emphasis on repair, refurbishment and re-use of devices.<sup>11</sup>



Yannis Papanastasiopoulos



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## Circular procurement hierarchy

Once the most effective points to make sustainability improvements have been decided, and organisational capacity has been confirmed, it is necessary to decide how this improvement will be made. A useful way to prioritise potential actions is by means of the 'Procurement Hierarchy', which is based on the European Waste Hierarchy: reduce, reuse, recycle and recover.

## Reduce

A first step to circular economies is to reduce what you purchase. This can be done by assessing if you really need to procure something at all, or if a solution can be found that does not require the acquisition of new products or materials. Reductions can also be made through smarter approaches to contracts, such as reducing the packaging of products delivered.

### Bringing circular concepts into school catering in Turin, Italy

In 2013, the City of Turin introduced a number of measures to their school catering contract to enhance its sustainability, which included requiring the use of energy efficient appliances and low environmental impact transport, as well as significantly reducing packaging and waste, for example by using tap water instead of bottled water, and favouring reusable and refillable products where packaging is unavoidable. In addition, contractors were required to shift from using plastic to reusable dishes. This one requirement alone resulted in a reduction of 157 tonnes/year of plastic waste.<sup>12</sup>

### Rethinking printing needs in Zurich, Switzerland

In 2012, the City of Zurich decided to switch from buying (or leasing) multifunctional devices to procuring an optimised Output Management Service. This means that the city no longer has to invest in hardware, and instead only pays per page printed. As a result the city has drastically reduced its costs as well as the amount of printed materials produced. An energy saving of 34% has been achieved and the number of printed pages has been reduced by 30 million a year.<sup>13</sup>

12. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue47\\_Case\\_Study100\\_Turin.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue47_Case_Study100_Turin.pdf)

13. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue53\\_Case\\_Study108\\_zurich\\_output\\_management.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue53_Case_Study108_zurich_output_management.pdf)

## Reuse

Increasingly products are being designed for reuse. When designing a procurement procedure, this is something that can be considered for the end-of-life of the product. Including supplier take-back systems in contracts are one way of ensuring that reuse

will happen. This is becoming common in contracts for ICT equipment, where desktop computers and laptops can be reused by other organisations after the public authority has upgraded.

### Closed loop town hall construction in a Dutch city

The City of Brummen (in the Netherlands) had outgrown its existing town hall, and knew it required more room for the next 20 years, at least. However, its capacity needs beyond this time were uncertain. As such, instead of taking a traditional approach to building works procurement, the city decided to adopt a more flexible, circular approach which would see them 'lease' a new building under a 20-year service contract. The building was designed in a way which allowed it to be disassembled and components returned to suppliers, including structural beams, cladding, and partitions and so on.<sup>14</sup>

### Extending the lifespan of work wear in Herning, Denmark

In 2013, Herning Municipality sought to procure new uniforms for its technical operations department, with the aim of extending their lifespan and more efficient use. To do so, it developed technical specifications and contract performance clauses related to maintenance, repair and recycling. By leasing uniforms through a service model, and including reuse and recycling contract provisions, it was possible to extend the lifespan of the uniforms, saving an estimated €6,700 and 1,011 tonnes of CO<sub>2</sub> emissions over four years.<sup>15</sup>

### Remanufacture of office furnishings in Wales

When Public Health Wales (PHW) moved offices in 2016 it decided to procure an office design and furniture supply contract which would encourage as much reuse of existing office equipment, furniture and flooring as possible, as well as supplying remanufactured goods from other sources. A supplier 'open day' communicated the key specifications of designing for a collaborative workspace environment and reusing as much furniture

as possible. The winning consortium, which included social enterprises, supplied over 2,500 items. Of these items, only 6% of them were new, and the rest were remanufactured or refurbished, with a significant share having been reused from PHW's existing stock. The circular approach diverted 41 tonnes of waste from landfill - with a CO<sub>2</sub> saving of 134 tonnes - whilst creating permanent jobs for several disabled and long-term unemployed people.

14. Circular Economy: Getting the circulation oging (Kiser, 2016). Available at: <http://www.nature.com/nature/journal/v531/n7595/full/531443a.html?foxtrotcallback=true>
15. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue65\\_Case\\_Study\\_131\\_Herning.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue65_Case_Study_131_Herning.pdf)

## Recycle

If a product cannot be reused then designing for recycling is the next alternative in making it circular. This means ensuring that the product purchased contains materials that can be easily and effectively

recycled into a new product. Alternatively, or in addition to the previous point, the product could be made from recycled content and thus further contribute to resource efficiency.

### Recycling concrete in building construction in Berlin

In 2013, the City-State of Berlin launched a pilot project with the aim of encouraging greater reuse of recycled concrete in building construction. A total volume of around 5,400m<sup>3</sup> of certified 'circular economy' recycled concrete was used in the construction of a slurry wall and building shell

of the new life science laboratory building at the Humboldt University. In comparison with concrete made from primary aggregates, the recycled concrete alternative saved 880m<sup>2</sup> of virgin gravel, 66% of the energy required for production and transport, and 7% of the associated CO<sub>2</sub> emissions.<sup>16</sup>

## Recover

In a circular economy, waste is recovered and used for a different purpose. This can include converting waste cooking oil into biodiesel, or composting food waste.

Procuring authorities can both help to design for recovery through specifications and criteria in tenders, and also procure the recovered products.

### Creating circular loops through biogas buses

In 2014, the City of Vaasa (in Finland) set out to procure a fleet of 12 buses, which could run fully on biogas recovered from organic waste and waste-water sludge at local treatment plants. Contract performance clauses, which specified a rebate for the supplier if annual consumption was more efficient than estimates, or a refund if less,

were also included to incentivise lasting and reliable performance. As well as replacing 280,000 litres of diesel every year, this procurement has created a 'circular loop' for the by-products of local waste, and supports infrastructure development in making biogas available for a further 1,000 cars.<sup>17</sup>



16. More information available at: <https://www.umweltbundesamt.de/themen/wirtschaft-konsum/umweltfreundliche-beschaffung/gute-praxisbeispiele/gebaeudeneubau/berlin-einsatz-von-recycling-beton-im-hochbau> (in German)

17. Circular Public Procurement in the Nordic Countries (Nordic Council of Ministers, 2017). Available at: <https://norden.diva-portal.org/smash/get/diva2:1092366/FULLTEXT01.pdf>

# MARKET ENGAGEMENT

The circular economy is a relatively young concept. It is therefore all the more important that procurers get to know the market (products, suppliers, manufacturers, service providers, etc.) to help them develop a greater understanding of what is already available and what is possible. Beyond this, the goal to encourage a wider shift to more circular economy based business models depends on longer term collaboration.

Market engagement<sup>18</sup> allows for the exploration and promotion of new business concepts. Dialogue with suppliers can identify the potential and feasibility of new models of provision, such as product-service systems, leasing options, buy-per-use, shared use, or buying and selling back.

Circular procurement often requires a shift from technical specifications being set solely by the procurer, to a process where specifications are set following exchanges between potential suppliers and procurers. Such an approach provides an opportunity to communicate needs, gather information on goods and services available, and test the viability of possible award criteria. On a wider scale, engaging with suppliers can help coordinate 'circular activities' across relevant sectors.

If a certain product or service is not currently available on the market in a way which fulfils principles of the circular economy, the contracting authority could establish an 'innovation partnership'. These partnerships provide a framework for research and development, piloting and subsequent purchase of a new product, service or work.<sup>19</sup>

## Engaging the market for furniture in Wageningen, the Netherlands

When refurbishing its city hall, the City of Wageningen decided it would purchase the most circular furniture the market could offer by using the principles of circular economy. To gain an understanding of the market, it conducted several pre-procurement market consultation activities, and sent out a request for information to potential suppliers. It also used an electronic procurement system which facilitated interaction between suppliers and the procurement team during the whole procurement process. As a result of the feedback received, the products were split into categories and seven different calls for tender were launched. Multiple bids were received based on prices which were not higher than those for conventional furniture.<sup>20</sup>

## Finding high-value reuse opportunities in Helsinki

In 2016, Helsinki Region Environmental Services Authority (HSY) embarked on the procurement of four to five pilot projects to test and evaluate new methods of treating and using digested sewage sludge from a waste treatment centre. The intention was to encourage nutrient and material recycling over energy recovery, in line with the European Waste Hierarchy. Pilot approaches are ideal for supporting the creation of innovative solutions. During 2017 to 2018, HSY will study further the best method from the various pilots. If it offers beneficial results after the assessment, the definite procurement will take place in 2019-2020.<sup>21</sup>

18. The EU public procurement directives specifically allow for preliminary market consultation with suppliers in order to get advice, which may be used in the preparation of the procedure.

See Articles 40 and 41 of Directive 2014/24/EU for further information.

19. See Article 31 of Directive 2014/24/EU for further information.

20. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue69\\_Case\\_Study\\_138\\_Wageningen.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue69_Case_Study_138_Wageningen.pdf)

21. Circular Public Procurement in the Nordic Countries (Nordic Council of Ministers, 2017). Available at: <https://norden.diva-portal.org/smash/get/diva2:1092366/FULLTEXT01.pdf>

# CIRCULAR PROCUREMENT REQUIREMENTS

## Specifications and award criteria

When designing tender specifications, identify whether a technical or a 'functional' approach would be more appropriate for achieving a circular result. Technical specifications describe the contract to the market and provide measurable requirements against which tenders can be evaluated, including minimum compliance criteria. Functional (or 'output/performance-based') criteria will describe the desired result and which outputs (for example, in terms of quality, quantity, and reliability) are expected.

A procurement exercise should seek to fulfil a certain need, rather than simply be about acquiring a specific product as part of a routine process. Taking a step back and investigating the broader needs first would allow for the adoption of a functional or performance-based approach. Such an approach enables for more flexibility to be built into the procedure. The market is then given more freedom to innovate and provide the most

effective solution, resulting in both reduced resource use and costs. However, sometimes it is necessary to include technical specifications if certain goals are desired, such as requiring the inclusion of recycled material in production.

It is not always possible to engage in resource-intensive new or innovative tendering procedures. In these cases, already defined circular criteria become particularly useful. As of October 2017, the European Commission has created GPP criteria for more than 20 product groups, of which the recently adopted criteria, including those for buildings, computers, textiles and furniture, have a reinforced focus on circularity aspects. For each criteria set, there are core criteria (these are suitable for use by any contracting authority for addressing key environmental impacts) and comprehensive criteria (targeted at purchasing the best environmental products available on the market).

Circular economy actions supported by GPP criteria sets can include promoting product eco-design and design for recyclability, extended producer responsibility, waste prevention, packaging material and sharing, collaborative economy, reuse, and refurbishment.<sup>22</sup>

### Using technical specifications and award criteria to require recycled textiles in the Netherlands

In 2017, the Dutch Ministry of Defence procured towels and overalls, with the requirement that the goods contained at least 10% recycled post-consumer textile fibres. The award criteria also recognised and awarded those offers which significantly exceeded the technical specifications (that is, achieved over 30% or 50% recycled content). Contracts were awarded for 100,000 towels and 10,000 cloths with a 36% recycled content; and 53,000 overalls with a 14% recycled content. Taken together, the contracts resulted in savings of 15,252 kg of cotton, 68,880 kg of CO<sub>2</sub>, 23,520 MJ of energy, and over 233 million litres of water.<sup>23</sup>

### Furniture design for disassembly in Denmark

In 2012, Denmark's central procurement agency (SKI) established a four-year framework for sustainable office furniture for more than 60 municipalities. Technical specifications were based on environmental requirements of the Nordic Swan eco-label, and included requirements on the chemicals used in the manufacturing, treatment, coating or dyes used, and the possibility of separation and recovery of materials at end-of-life. Wood and wood-based materials were also required to come from legally harvested timber, and at least 70% of this had to be either recycled or verified as sustainable timber. By using a framework approach, savings of up to 26% compared to market prices were achieved, and the market for sustainable furniture products was enlarged.<sup>24</sup>

22. Suggested specifications relating to product design, the production process, the operational phase, and end-of-life management can also be found in the MVO Nederland Circular Procurement Guide. Available at: <https://mvonederland.nl/circular-procurement-guide>

23. More information available at: <https://www.pianoo.nl/sites/default/files/documents/documents/rebusfactsheet15-kledingdefensie-engels-juni2017.pdf>

24. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue58\\_Case\\_Study118\\_sustainable\\_furniture\\_Denmark.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue58_Case_Study118_sustainable_furniture_Denmark.pdf)

Eco-labels<sup>25</sup> are also a useful way for bidders to demonstrate that their product or service meets certain sustainability requirements. Eco-labels can be used when they are directly relevant to the subject-matter of the contract, and meet certain standards

of objectivity, transparency and verification. In addition, it is necessary to also accept labels which meet equivalent criteria, or accept other appropriate evidence where time constraints have prevented formal award of an eco-label to a bidder.

### Using Cradle 2 Cradle (C2C) certification for cleaning products in Ghent

In 2016, the City of Ghent established a four-year framework agreement for the supply of cleaning and polishing products. It was required that products in certain categories, including cleaning products and hygiene products (that is, soap) met the criteria of the C2C 'Bronze' label or equivalent. As a result, the recycled content and recyclability of waste is greatly improved: packaging uses

85% recycled cardboard, plastic bottles made from polyethylene high-density (PEHD) are 100% recyclable and consist of 10% recycled PEHD, while those made from polyethylene terephthalate (PET) are 100% recyclable and made from 81% recycled materials. In addition, an innovative C2C certified dosage bottle with anti-spilling system was also introduced, reducing overuse and wastage.<sup>26</sup>



25. For more information about the use of eco-labels in public procurement, see Article 43(1) of Directive 2014/24/EU; article 61(1) of Directive 2014/25/EU.

26. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue70\\_Case\\_Study\\_140\\_Ghent.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue70_Case_Study_140_Ghent.pdf)



## E VALUATION

Implementing circular procurement means going beyond lowest price at purchase. At the award stage, the contracting authority can evaluate the quality and circularity aspects of the tenders using predetermined award criteria.

Under the 2014 procurement directives, all contracts must be awarded on the basis of most economically advantageous tender (MEAT), an approach which

makes it possible for the procurer to award and compare factors beyond price such as quality and sustainability.

For many products and works, costs incurred during use (such as energy consumption, service and maintenance costs) and disposal may be highly significant in terms of price. As such, taking account of life-cycle costs makes good economic sense and can encourage circularity. However, there may be different budgets for upfront costs of purchase and long-term energy and maintenance costs, meaning cross-departmental cooperation is often essential.

### Assessing infrastructure according to lifetime environmental impacts and cost

In 2015, the Department of Public Works within the Dutch Ministry of Infrastructure and Environment (Rijkswaterstaat) published a Design, Build, Maintain and Finance contract for widening a 13km stretch of road. This used a MEAT procedure, which assigned costs to environmental impacts, and then awarded the contract to the lowest corrected total price. Environmental impacts were calculated using two tools: the CO<sub>2</sub>e Performance Ladder (which adjusted total price according to estimated emissions) and DuboCalc (a life-cycle analysis

tool calculating the sustainability of proposed materials). The winning bid proposed smart construction solutions which reduced material transportation, smart use of asphalt to reduce overall requirement and the use of recycled materials. It was both competitively priced and offered significant environmental savings compared to the baseline. Total savings of 52,800 tonnes of CO<sub>2</sub>e or 15,048 tonnes of oil equivalent have been estimated over the lifetime of the infrastructure.<sup>27</sup>

27. More information available at:  
[http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue70\\_Case\\_Study\\_140\\_Ghent.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue70_Case_Study_140_Ghent.pdf)



## N-USE PHASE AND CONTRACT MANAGEMENT

When aiming to make a purchase more circular, it is good practice to establish what the projected service life of the product is, and what the supplier can offer in terms of maintenance and repair.

Suppliers can be required or encouraged to take responsibility for keeping a product or material in the supply chain after use. Circular procurement contracts typically fall into one of three categories<sup>28</sup>:

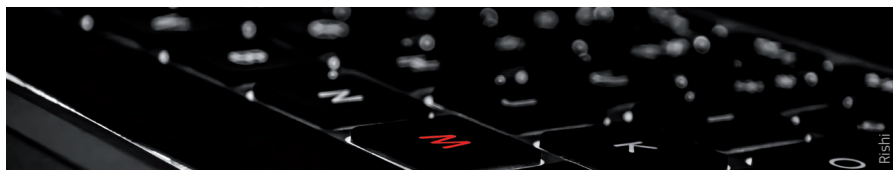
1. Product service systems - the supplier retains ownership of the product, and the user pays-per-use or according to performance.
2. Purchase and buy back agreement - the supplier buys back a product and ensures optimum value retention via reuse.
3. Purchase and resale agreement - the contract includes an agreement on who (that is, a third party) will recover the item after use, normally for lower-value material reuse or recycling. Alternatively there is the option to introduce separate contracts which specifically deal with reuse. This option may be particularly useful when the purchase of a product has already been made.

### Contract performance clauses for furniture maintenance in a Dutch city

In 2012, Venlo published a tender to purchase office furniture for its new city hall premises, in which it asked bidders to offer products made from environmentally-friendly materials which could be disassembled and refurbished easily. Contract performance clauses were included that obliged the supplier to perform annual preventative maintenance, as well as repair furniture on demand, and provide temporary replacements for defective furniture. Ten years down the track the supplier will still be required to take back furniture, and offer possibilities for refurbishment. As such, a residual value for the furniture of 18% (from an original budget of €1.6 million) has been guaranteed through this contract.<sup>29</sup>

### Collecting and refurbishing redundant ICT in Durham

In 2012, Durham County Council decided to put in place a new contract to ensure that redundant computer equipment was reused or recycled to the greatest extent possible. As well as meeting obligations under the EU WEEE regulations, this also minimised environmental impact by diverting waste from landfill, and achieved social value by making refurbished equipment available to community groups. Tenders were assessed on a MEAT basis, and the new contract returns an income to the Council of approximately €34,000 (or £30,000) per annum while also making refurbished low-cost computer equipment available to local community groups.<sup>30</sup>



28. A framework for circular procurement (MVO Nederland, 2015). Available at: <https://mvonederland.nl/sites/default/files/media/Framework%20for%20Circular%20Procurement%202020%20April%202015.pdf>

29. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue60\\_Case\\_Study122\\_Furniture\\_Venlo.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue60_Case_Study122_Furniture_Venlo.pdf)

30. More information available at: [http://ec.europa.eu/environment/gpp/pdf/news\\_alert/Issue57\\_Case\\_Study115\\_Durham.pdf](http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue57_Case_Study115_Durham.pdf)

# RESOURCES AND INITIATIVES

## EU GPP Criteria<sup>31</sup> and GPP in Practice Examples

- the European Commission has developed criteria to facilitate the inclusion of green requirements into public procurement tenders for more than 20 product groups. These include 'core criteria' suitable for any contracting authority and focused on key environmental issues, and 'comprehensive criteria' with a higher level of ambition aimed at purchasing the best environmentally-friendly products available on the market. Furthermore, an extensive collection of detailed good practice examples from across Europe are available on the European Commission's website. These are grouped by product or service sector. More information can be found here.<sup>32</sup>

**REBus** - this EU Life+ partnership project, led by WRAP and the Dutch Ministry for Infrastructure and the Environment, supported 30 SMEs, large businesses, and government bodies to pilot circular procurement processes in the UK and the Netherlands. Sectors covered include: electrical and electronic products, textiles, construction, furniture, ICT, catering and carpeting. A guide for Circular Procurement was developed and is available here.<sup>33</sup>

**European Clothing Action Plan (ECAP)** - ECAP is a current initiative, funded by the EU Life Programme, which aims to address all aspects of sustainability for clothing, including public procurement. More information can be found here.<sup>34</sup>

**Zero Waste Scotland (ZWS) Category and Commodity Guidance** - ZWS has developed specifications to include circular economy outcomes in the following sectors: electrical and electronic, furniture, construction, textiles, catering, cleaning, flooring, power and hand tools, vehicles and tyres, outdoor playground equipment, waste services and medical devices. It is available here.<sup>35</sup>

**Report: Circular Public Procurement in the Nordic Countries** - this report, prepared on behalf of the

Nordic Council of Ministers defines a framework for circular procurement and presents good practice from the Nordic countries.<sup>36</sup>

## MVO Nederland Circular Procurement Guide

- in 2013 MVO Nederland created guidance for procurement staff, which includes advice on preparing for a circular purchase, formulating specifications, and the contract phase.<sup>37</sup>

## Circular Procurement Best Practice Report

- The EU-funded SPP Regions project promotes the creation and expansion of European regional networks of municipalities working together on SPP and public procurement of innovation (PPI). This report sets out different models of circular procurement.<sup>38</sup>

## Training module on procuring Product Service Systems

- Training module providing insights and practical guidance to procurement officials, policy makers and suppliers on adopting circular procurement principles. This training was delivered as part of UNEP's SPP Programme of the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP).<sup>39</sup>

**Ellen MacArthur Foundation** - The Foundation is a UK-based charity dedicated to accelerating the transition to a circular economy. It has created a suit of resources, including evidence reports and online education tools which can provide further information on the background of the circular economy.<sup>40</sup>

**European Commission** - further information on the Circular Economy Package, including reports on the EU Circular Economy Action Plan and links to related areas policy areas including waste, resource efficiency and business and industry are listed on the European Commission's website.<sup>41</sup>

31. [http://ec.europa.eu/environment/gpp/eu\\_gpp\\_criteria\\_en.htm](http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm)

32. [http://ec.europa.eu/environment/gpp/case\\_group\\_en.htm](http://ec.europa.eu/environment/gpp/case_group_en.htm)

33. <http://www.rebus.eu.com/implementing-a-rebm/guide-for-circular-procurement-rebms/>

34. <http://www.ecap.eu.com/>

35. <http://www.zerowastescotland.org.uk/content/sustainable-procurement>

36. <https://norden.diva-portal.org/smash/get/diva2:1092366/FULLTEXT01.pdf>

37. <https://mvonederland.nl/circular-procurement-guide>

38. [http://www.sppregions.eu/fileadmin/user\\_upload/Resources/Circular\\_Procurement\\_Best\\_Practice\\_Report.pdf](http://www.sppregions.eu/fileadmin/user_upload/Resources/Circular_Procurement_Best_Practice_Report.pdf)

39. [http://www.spclearinghouse.org/sites/default/files/unesp\\_sp\\_pss\\_cp\\_module\\_1\\_final.pdf](http://www.spclearinghouse.org/sites/default/files/unesp_sp_pss_cp_module_1_final.pdf)

40. <https://www.ellenmacarthurfoundation.org/publications>

41. [https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy\\_en#relatedlinks](https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy_en#relatedlinks)



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