



Summary report work package 2.1 State-of-the-art on Circular Procurement Policy in the Baltic Sea region

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Introduction

Circular economy (CE) is seen as a means to turn the unsustainable linear consumption patterns towards circular and resource-efficient use of materials while simultaneously allowing for economic growth and social well-being. Also the role of public procurement, as accounting for on average 14 % of GDP in the EU annually (European Commission, 2016) has been recognized important in offering opportunities to promote CE (Ellen MacArthur Foundation, 2015). It could, for example, create markets for clean solutions, especially in waste prevention, material efficiency and recycling and reuse of materials and products manufactured from secondary (recycled) raw materials (European Commission, 2014).

Circular public procurement (CPP) initiatives are part of the sustainable or green public procurement although having a clear focus on a procurement of goods, services and systems that lead to extended lifespans, value retention and/or remarkably improved and non-risky cycling of biological or technical materials, making use of and supporting the circular business models and related networks. Circular public procurement has been realized in different forms and different sectors, such as construction, transport, waste management, food and catering as well as on certain product groups such as furniture, textiles and IT equipment. (Alhola et al., 2018) Good examples of CPP and related business models have been recognized in several international projects and studies such as REBUs (e.g., Prummel & Jones, 2016), INNOCAT (Jones, 2016), Green Deal Circular Procurement (Starmans, 2017) and CIPRON (Alhola et al., 2017). Also guidance and training material to Public procurement for CE has been published (e.g., European Commission, 2017; Rijkswaterstaat, 2017; Prummel et al., 2016). (See more in Appendix 1)

The EU supports increased uptake of sustainable public procurement (SPP) and green public procurement (GPP) that could promote aspects of the circular economy (European Commission, 2015). For example, the EU's GPP criteria as well as many national green procurement criteria already set targets for circular aspects, e.g. criteria to buy products with higher recycled content, and products and parts that could be better recycled (Alhola et al., 2017). Latest criteria also include actions higher in waste hierarchy, such as criteria for reuse and refurbishment. In addition, different business models, such as product–service

systems, i.e. buying services instead of products, could encourage “closed-loop” production and consumption cycles (UNEP, 2015).

In recent years national actions plans have been adopted in 23 EU countries that set targets to sustainable and green public procurement (European Commission, 2018). This study provides an overview of current policies related to circular public procurement in the different countries of the Baltic Sea Region, identifying the main existing gaps and the lines of action that are to be set as a priority in the following years. The study also highlights good and best practices in the field of circular public procurement, and shows examples on how circular elements can be considered in the tendering documents.

1. Legal environment of circular public procurement

In the EU, public procurement is covered by the public procurement directives, renewed in February, 2014 (2014/24/EU). The main principles of the EU directives are to guarantee free movement of goods and services, equal treatment and non-discrimination of bidders. The new public procurement directive allows procurement units to benefit from more opportunities to acquire circular solutions. One significant renewal concerning criteria setting is the life cycle approach, which is now recommended in the directive. This means that the entire life cycle can be considered, particularly when determining the environmental requirements for the procurement. Life cycle costing could be an approach to take secondary materials and the reuse and recyclability of materials into account while also making the economic benefits of circular procurement visible (Alhola et al., 2017).

It has been argued that the transition to a functioning circular economy requires systemic multi-level change, including technological innovation, new business models and stakeholder collaboration (Witjes & Lozano, 2016). In public procurement, the interaction and dialogue between buyer and supplier has been identified as an important trigger for innovation (Lundvall, 1992; Edler & Georghiou, 2007) and early market involvement and extensive market dialogue have been observed to enable successful public contracts (Patajoki, 2013). The new public procurement directive could stimulate co-operation between different parties in the procurement process. For example, technical dialogue (Directive 2004/18/EC (8)) and preliminary market consultation (in the new Directive 2014/24/EC (40)) are mentioned as means of obtaining information from the market before launching a procedure for the award of a contract. With these procedures contracting authorities may seek or accept advice which may be used in the preparation of the specifications provided, however, that such advice does not have the effect of precluding competition (2004/18/EC (8)). The preliminary market consultation also aims to inform economic operators of the procuring unit's future plans and requirements (2014/24/EC, (40)).

In the EU's public procurement directive, several tendering procedures, namely competitive procedures with negotiation and competitive dialogue, have been aimed to promote innovative and often complex procurement processes. They allow the contracting authority to discuss all aspects of the contract with the bidders before calling for final bids (Haugbølle et al., 2015; Lundström, 2011). In addition, the new public procurement directive introduces a new means of awarding tenders – innovation partnership – which gives an opportunity to the tenderer to come up with an innovative solution together with the purchaser (Directive 2014/24/EC). The difference between innovation partnership and pre-commercial-procurement (PCP) is that the former includes procurement of both the development work and the new innovative solution, whereas in PCP the procurer acquires only development work without committing itself to the procurement of the new solution (European Commission, 2007a).

Circular aspects can also be triggered through output specifications – whereby the public buyer asks for a solution to a specific problem rather than specifying the concrete product or services to buy, while allowing companies leeway to propose the innovative solution (Edler & Uyarra, 2013; European Commission, 2007b), or they can be stipulated into the technical specifications or award criteria.

Public procurement transactions in Russia are not covered by the EU directives. In Russia, the Public Procurement system consists of two major parts:

- 1) public procurements by government bodies; and
- 2) public procurements by organisations and businesses that are managed by the State. These businesses include state corporations, state organisations, natural monopolies, energy companies, water suppliers, waste management, as well as private companies where the state has an over 50% share, governed by two Federal Laws (44-FZ and 223-FZ respectively).

Basic principles of the 44-FZ ensures that the contract system is based on the principles of openness, transparency of information, competition, customers professionalism and innovations stimulations, among other things (Article 6 44-FZ). In addition, 223-FZ highlights the principles of open information of purchase, equality, justice, absence of discrimination and unreasonable restrictions of competition, and the cost-efficient expenditure of public money (with accounting in need of the life cycle cost of bought products) (Article 3 223-FZ).

The introduction of environmental requirements for products is not prohibited by law. Neither the 44-FZ nor the 223-FZ contain any restrictions on this matter. However these laws do not oblige or motivate the procuring entities to include environmental requirements in the product specification.

Several environmental requirements and criteria could be included in different parts of the procurement documentation:

- *technical requirements and product specifications* are often contained in existing GOSTs (a state standard), international and other Russian standards. Additionally environmental criteria could be used but ecolabels cannot be requested.
- *requirements for the qualification of suppliers*. It is not possible to use *Ecological requirements for qualification of suppliers* for procurement organizations working under 44-FZ since the law contains an exhaustive list of requirements for suppliers. However procurers who follow norms of 223-FZ can apply these requirements
- *environmental criteria in the evaluation of applications* is allowed by 44-FZ (Article 32) Moreover, the Rules for Evaluation of Applications of Purchase Participants (Decree of the Government of the Russian Federation No. 1085 of 28.11.2013) stipulate for compliance with environmental standards as a given ecological criterion. 223-FZ does not exist any prohibition or authorization to use these criteria.
- *specific terms of the contract*: the introduction of such requirements in the terms of the contract does not contradict Russian law and can be applied in practice.

In practice, in the majority of public procurements by government bodies regulated by 44-FZ the determinative criterion is the price. In the logic of 44-FZ according to the subject of the procurement and estimated initial maximum price of the procurement the government body must choose the correspondent methods of determination of suppliers (contractors, performers) (Article 24 44-FZ). According to the law some methods (e-auction, call for quotations) can have minimum price as only one criteria. For open tenders, restrict tenders, two-stage tenders there is a list of criteria that can be chosen in order to evaluate applications of the procurement participants (Article 32 44-FZ), such as:

- Expenses on operation and repair of goods, use of works results;
- Qualitative, functional and ecological characteristics of object of procurement;
- Qualification of the procurement participants, including financial resources, equipment and other material resources on the property right or other legal grounds, work experience connected with subject of the contract, business reputation, specialists and other workers with certain skill level.

Furthermore 44-FZ (Article 32) allows to use life cycle cost as an evaluation criteria.

According to the 223-FZ each organization subject to that law must establish its own legal acts regulating rules of purchase (Regulations on purchase) that must comply with by the Constitution of the Russian Federation, the Civil code of the Russian Federation, this Federal

Law, other Federal Laws and other regulatory legal acts of the Russian Federation. These Regulations of purchase can stipulate objectives to circular public procurement.

In brief, while the 44-FZ regulates all the steps and details of the public procurement process (including the possible methods, criteria, procedures and documents required), the 223-FZ provides only the general framework (principles, basic provisions and basic requirements) while all the other details (regulations, procedures etc.) must be decided upon by the organization itself in full compliance with the Legislation of the Russian Federation. In terms of research on Green (sustainable) PP in Russia in the sector of organizations related to the government it means that each organization should be examined separately. In terms of promoting the Green (sustainable) PP in Russia it means that the sector legal entities, subject to 223-FZ, is much more flexible in potential possibilities to use the principles of green procurements than the sector of government bodies, subject to 44-FZ.

Detailed description of Russian legislation on procurements and differences of GPP and SPP in in Europe and Russia are presented in Appendix 4.

2. Methodology

The study consisted of three parts:

- 1) State of the art of circular public procurement policies in the partnering countries: **Objective** of the task was to analyse current policies in place related to circular procurement in the BSR countries and identify the main existing gaps and the lines of action that are to be set as a priority in the following years concerning Circular economy (CE), Circular Public Procurement (CPP) and Sustainable Public Procurement (SPP).
- 2) Collection of good and best practices of CPP: **Objective** of the task was to search for, analyse and provide an overview of CPP best practice cases in the BSR countries.
- 3) Selection of circular public procurement criteria currently used in calls for tender: **Objective** of the task was to analyse the actual calls for tender and find examples of circular criteria and/or aspects that were used in the documents.

2.1. State of the art of circular public procurement policy - country review

SYKE draw up a questionnaire framework (Appendix 2) together with AUU and other partners. Main source of information was identified to be government bodies that were officially responsible for CPP/SPP/CE. Also public bodies, policy makers, decision makers in the area of CE and current public procurement policy, were recognized as potential interviewees. Good information sources were also project partners themselves (especially questions in Themes A-B in the Framework), industry representatives (especially in Theme C in the Framework) and research organizations (especially in Themes C-D in the Framework).

Partners in each country decided the best sources of information concerning the state of public CPP/SPP/CE policies, and contacted the interviewees as well as conducted the interviews (1 – 3 per country). Expert interviews were performed in spring 2018. Interviewees are listed in appendix 3. Interviews were conducted either in person or by phone and were recorded but not transcribed. Recommendation was that there should be two interviewers present that speak the national language. Notes were taken in the original language and a detailed summary as well as conclusions were written in English.

References and links to country specific information (internet addresses) are presented in the footnotes in order to create an easy access to the data.

2.2. Successful circular procurement practices

Altogether 20 examples of good and best practices of CPP were collected during the spring 2018, 5 of which were analysed in more detail and 15 cases in general level (Chapter 4).

Each partnering country did the preliminary search for potential best practice cases according to the framework developed by SYKE (Appendix 2). The framework was based on circular elements recognized in previous research projects NBEN Denmark and CIPRON (Alhola et al., 2017). The purpose of the preliminary search was to find as many potential circular procurement cases as possible in each partnering county (at least 3 – 5 per country) and make suggestions to the research team for final selection as good examples of CPP. The preliminary search included different product and investment groups.

The preliminary search focused on realized or ongoing public procurement cases in forerunner cities, municipalities and governmental procuring units. Potential cases were tracked by several means:

- As a result of expert interviews (see Chapter 3)
- Asking from forerunner cities, municipalities and regional authorities
- Through media (search for “circular procurement” / “circular economy”)
- Reviewing research and funding initiatives (in the field of CE)
- Screening through calls for tenders and national tender-databases

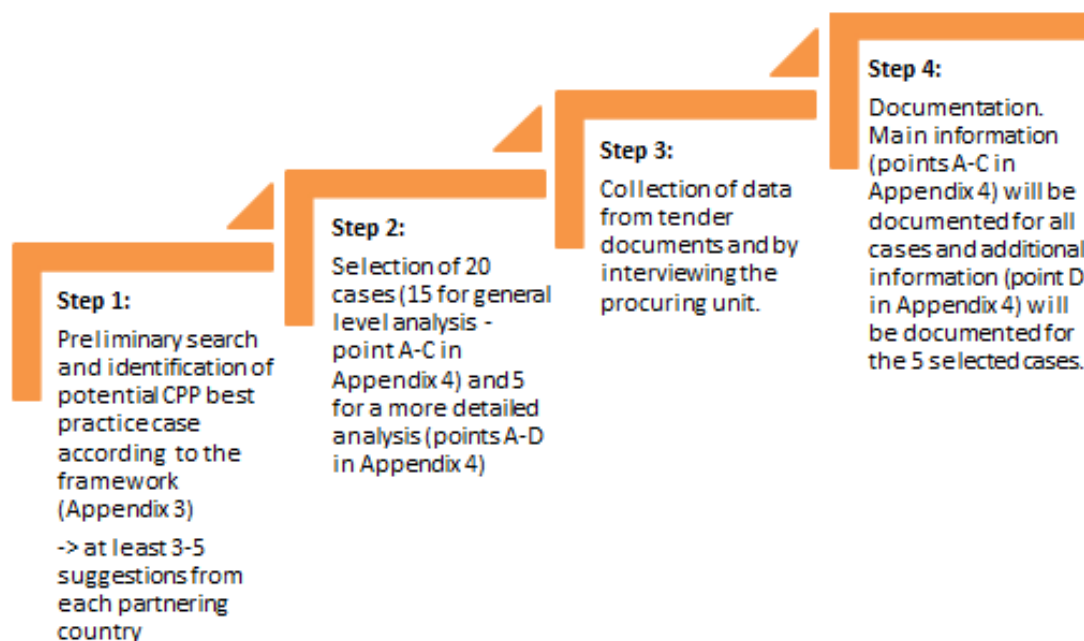


Figure 1. Analysis of CPP best practice cases

Source: own elaboration

2.3. Calls for tender and procurement documents with innovative circular approaches

The actual calls for tender that were open between June and November 2018 were analysed, and examples of circular criteria and/or aspects that were used in the documents were mapped. The results indicated to what extent circular criteria or aspects were implemented in actual calls for tenders. Altogether 57 calls for tender were analysed from the partnering countries. In the sample we looked for those product groups that were already known to have potential circular criteria, e.g., furniture, IT devices, food and catering and textiles while also other product groups were searched for. Instead of gathering a statistically representative sample and making generalizations, the aim was to find different approaches to address circular aspects in the tendering process and examples of circular criteria in calls for tender. TED database and national databases were used as sources for calls for tender. A framework for CE criteria analysis (Appendix 3) was developed and used while also searching for other possible circular criteria in the documents.

3. Status in participating countries

3.1. Denmark

3.1.1. Public policies related to CE/CPP/SPP

The main public bodies in charge of building CE and CPP or SPP policies

- The ministry of Environment and Food (where EPA belongs)
- The ministry of Industry, Business and Financial Affairs
- The ministry of Finance
- Municipalities
- SKI – National Procurement Ltd – Denmark

A national action plan regarding CPP, SPP or CE

There is a Government Strategy on Smart Public Procurement¹ with three overarching objectives of the public procurement: 1) Efficiency, 2) Innovation and Quality, 3) Sustainability.

The strategy was launched in 2013. The sustainability focus of the strategy is seen as an instrument to develop into a more resource-efficient society with more efficient and effective use of resources and green transition in businesses. Focus areas are environmental and energy requirements and development of green solutions and by taking corporate social responsibility (CSR) and social concerns, including social clauses and labour clauses. CPP is not mentioned in the plan.

The future policy lines and steps regarding CE and CPP or SPP

At state level there are three main initiatives to promote SPP:

- The Forum on Sustainable Procurement - a national network which is a knowledge sharing forum where procurers from both public and private organisations can keep

¹ https://naturstyrelsen.dk/media/nst/10636202/strategi_for_intelligent_offentligt_indk_b2.pdf

updated on best practice, methods and tools for green procurement, through a website, newsletters and various events. <http://www.ansvarligeindkob.dk/>

- The Partnership for Green Public Procurement - a collaboration between frontrunner municipalities, regions and other public organisations who are committed to making extra efforts in partnership with other organisations to reduce their environmental impact from their procurement actions and drive the market to a greener direction. www.gronneindkob.dk
- The Responsible Procurer² - webpage where procurers can find green criteria available to “copy paste” into tender documents for a number of product areas and Total Cost of Ownership tools for selected product areas.

A strategy on Circular Economy is expected to be launched by the Government in spring 2018. With the coming strategy, the plan is to continue the three efforts mentioned above, including a particular focus on CPP and CE.

Implementation of national policy objectives to local political level

In Denmark, green and sustainable public procurement builds on a voluntary approach. However, it is up to the individual municipality and region to decide how much focus it will have on green procurement. The Danish Environmental Protection Agency works with environmental professionals and purchasers in municipalities and regions to promote public green procurement and focus on CPP.

In general, green procurement is more implemented at a municipal level for example in Aalborg, Copenhagen, Odense and Kolding than at central level. There are good local level initiatives and the regional level is also involved. However the regional level has limited resources and obligations. The regions are responsible for the health sector and eager to turn the hospital purchases sustainable. Within the current political landscape, procurement cannot be more expensive, but the regions have allocated resources to identify green product groups and criteria that can be applied.

The national level involvement in procurements could be stronger. For example in Partnership for Green Procurement, majority of the members are local and regional.

3.1.2. Support in Circular Public Procurement (CPP)

Capacity building regarding CPP

CPP is still in a start-up phase where the efforts so far and among other things have been to clarify how to define the term. However, the Forum on Sustainable Procurement has in

² www.csr-indkob.dk

2016-2017 run a working-group with participants from different municipalities and suppliers to discuss CPP. The work resulted in the guide “Cirkulær Indkøbsguide”³ (in Danish).

As part of the coming strategy on CE there will be an introduction of a national task force with the aim to help public institutions (municipalities) and companies implementing CPP in practice and to introduce existing tools and networks within GPP/PPP.

Public procurement guidelines or criteria sets that include CE measures

Besides the guide mentioned above a few reports and brochures have been developed to inspire and guide on how to do CPP.

- SPP Regions project where Danish EPA is involved⁴
- Nordic Council of Ministers – report on Circular Public Procurement in the Nordic Countries where Danish EPA has been involved⁵
- EU Commission⁶ report on Public procurement on Circular economy - Good practice and guidance.

There are some examples of criteria, specifically prepared for the Partnership of Green Public Procurement. Some criteria can be placed directly in the tender document but that is strictly voluntary. There is also a cooperation agreement with SKI that they should adopt these criteria. So far SKI has adopted only some criteria on some of the product groups. In addition, for the capital region there has been some criteria developed specifically for tender documents by PlanMiljø as a consultant for a specific procurement. This criteria was designed to be implemented directly in the tender competition, the process of development included market engagement and consultation.

Knowledge on currently used criteria

Partnership for Green Public Procurement (PGPP) started a survey in 2016 according to which some requirements were implemented depending on the partnership priorities. However, the uptake of the criteria is not uniform across the members of the partnership. Furthermore, some criteria are more difficult than other ones for example food. Organic food is a trend in cities, but not in rural areas.

Financial support or arrangements for CE related projects

There are expectations for the coming strategy on CE to contain projects that includes financial support or at least projects financed by the state level.

³ <http://www.ansvarligeindkob.dk/wp-content/uploads/2017/06/Cirkulær-indkøbsguide-lille.pdf>

⁴ <http://www.sppregions.eu/resources/publications/>

⁵ <http://www.norden.org/da/publikationer/publikationer/2017-512>

⁶ http://ec.europa.eu/environment/gpp/circular_procurement_en.htm

3.1.3. Viewpoints on market maturity and conditions promoting CPP

Alternative business models enhancing CPP

The coming strategy on CE from the Government will expectedly include answers to the question. At the moment, the examples can be found from the IT – sector. E.g. REFURB (in Jylland) buy from institutions old computers and refurb them and then sells them back to other institutions. They can either close the loop (take computers back), or even take full responsibility (procurement, through operation, collection and refurbishment). There are also possibilities in transportation, clothing (take-back used clothing) but it has not been implemented much in Denmark yet.

It comes down to the vision and ambition of the procurement entity and the manufacturer and how able are they to discuss circular solutions. However, there are also cases, where the manufacturer develops a circular solution and approaches the procurement department.

In addition to the lack of demand, the challenge is also that too many manufacturers are interested in providing a product and “moving-on” to the next customer.

Existing structures and network supporting CPP at the moment

CPP is a fairly new area. There is definitely room for more discussions and development of existing structures to make it easier to support CPP. The coming strategy on CE will hopefully support this.

Relevant stakeholders in developing new circular based markets, ecosystems and value chains through public procurement

The municipalities, the regions, SKI, suppliers, producers, waste collectors, waste treatment plants, the Ministry of the Environment and Food, the Ministry of Industry, Business and Financial Affairs have been recognized as relevant stakeholders in the field of CE/CPP.

It can be seen, that the procurement entities which are active in CPP are usually collaborating with environmental department. Procurement offices are not measured on sustainability but the main indicator for procurement departments is to keep the costs low, and second, quality. But good example exists; in Copenhagen municipality, the procurement department has 3 people on staff dedicated to environmental aspects. This is a good effort, and requires a significant organizational change.

Overall, developing CPP is not a technical matter, it is consolidated organizational approach. Without a vision and leadership, it will not happen. There are things happening on CPP/GPP but further development is needed, for example changing the “voluntary” nature of the agreements.

3.1.4. Key remarks

- Overall, through various efforts made by different actors at all the governmental levels, SPP has been gaining momentum in the last few years in Denmark. It is particularly encouraging the upcoming National CE strategy as well as the various CPP pilots projects currently under development.
- At state level there are three main initiatives to promote SPP: The Forum on Sustainable Procurement, The Partnership for Green Public Procurement and The Responsible Procurer - webpage.
- CPP is still in a start-up phase where the efforts so far and among other things have been to clarify how to define the term. Upcoming strategy on CE will include a focus on CPP.
- In Denmark green and sustainable public procurement builds on a voluntary approach. There is a need for stronger political leadership and regulatory instruments.
- In action, municipalities and regions are taking the initiative. However, only a few are currently involved (e.g. members of the Partnership for Green Public Procurement). There is available public Green Criteria but the use is not extensive. Criteria ready to be applied in specific contracts has been developed in a case-by-case basis.
- Alternative business models involve close and long-term collaboration with procurement department. In electronics, furniture, clothing and even transportation, business models involving take-back systems are available; however, this does not mean they are being procured.

3.2. Sweden

3.2.1. Public policies related to CE/CPP/SPP

The main public bodies in charge of building CE and CPP or SPP policies

The Swedish government is deciding the direction and policies for public procurement. The National Agency for Public Procurement (UM) works under the Ministry of Finance and develops tools and guidance from given direction.

National action plan regarding CPP, SPP or CE

Sweden has a focus on sustainable procurement, promoted by the UM. There is a national procurement strategy⁷ where one of seven sub goals is about SPP, where CE is mentioned.

⁷ <https://www.government.se/information-material/2017/11/national-public-procurement-strategy/>

CE was included in the strategy in 2016, but there are no guidelines, it is just mentioned that procurement can be a tool for a more circular economy and there are no types of measurements or actual plans for how to develop CPP at the moment. The strategy states that purchasers should receive guidance from UM to shift the focus from product to function. Also Life cycle analyses were mentioned as a tool for measuring the environmental impact of product and services. From UM more emphasis is given on Innovation procurement and several people at the UM work with that.

The future policy lines and steps regarding CE and CPP or SPP

A public inquiry was made by the Swedish government in 2017 about circular economy. One of the proposals in the inquiry was that a support should be given to municipalities to take steps towards a more circular procurement. However no national level decisions has so far made on this. According to the results of the inquiry there will be guidelines developed by the UM. A national delegation on circular economy is being realized from the inquiry.

3.2.2. Support in Circular Public Procurement (CPP)

The UM offers public procurers general guidance. In addition innovation procurement is paid attention to. In the national procurement strategy, it is mentioned that purchasers should receive guidance from UM to shift the focus from product to function, but it doesn't say anything specific about circular procurement.

3.2.3. Viewpoints on market maturity and conditions promoting CPP

National agency collaborates with businesses in circular models from time to time, but no significant change has happened so far. As an example, the source of heating in Sweden is depending on high levels of combustion, which requires high amount of waste, including plastics and textiles. That could affect the possibilities for decreasing material, and Sweden also imports waste from other countries for heating. Also the system for recycling in Sweden is well developed (for paper, glass, aluminium etc.) and that can also affect the willingness to shift from recycling to circularity.

3.2.4. Key remarks

- National agency on public procurement supports the procurers on CPP in different levels. However more attention is paid to innovative procurements.
- There is a national procurement strategy which includes also goals for promoting CE.
- The government is appointing a delegation on circular economy.

3.3. Russia

3.3.1. Sustainable and Green public procurement in Russian Federation

In Russia, many scientists and experts understand that it is necessary to take into account environmental requirements when placing orders as public procurement is a powerful investment tool for the development of the country and possess significant purchasing power. In 1996 along with 140 countries, Russia adopted the concept of sustainable development. However there is not any holistic national strategy towards sustainability neither special directives regulating green, sustainable or circular public procurement, but it also should be mentioned that the white paper 'Fundamentals of the Environmental Policy of the Russian Federation for the period until 2030 were approved in April 2012 and provides advantages when procuring goods, works or services that meet the environmental-friendly requirements.

With the adoption of the Federal Law 44-FZ 'About the contract system in the sphere of procurement of goods, works, services to ensure state and municipal needs' Russia has closed the gap between other countries in the regulation of public procurement. Price is still one of the mandatory requirements in this law but among other criteria it is recommended to take into account the environmental characteristics of the object of procurement (Article 32, part 1) and life-cycle criteria Article 32, part 3). However, unfortunately Federal Law 223-FZ 'About purchases of the goods, works, services by separate types of legal entities' which is widely used by both public and private corporations, omits any kind of such specific requirements.

Concerning regional and municipal level any strategic impulse from federal to local authorities cannot be indicated in the process of making public procurement more sustainable. Federal legislation is also obligatory and quite the same for any district or municipality. So, if local authorities are interested to follow good practices they are allowed to introduce some elements of SPP policies.

In 2010 the Moscow City Government Decree No. 3326PP "About environmental requirements for the quality and technical characteristics of products purchased under the state order of the city of Moscow and directions for improving environmental certification and audit systems" was introduced. The document contains environmental criteria for a number of groups of goods and services purchased by Moscow institutions.

Most often environmental requirements in Moscow are applied when purchasing catering services and food. This may be due to the availability of knowledge of environmental

requirements and skills of their application to procuring entities, as well as legal regulation of requirements to this product group.

From the list of environmental requirements stipulated by Moscow Government Decree the purchasing organizations apply a much smaller set of requirements and do so less frequently (requirements mostly applied when purchasing computers and office equipment). One of the reasons for this may be the ignorance of the requirements of this decree by the procuring entities. In addition, the text of the Decree in comparison with environmental requirements and criteria adopted in the European countries is substantially narrower. This regulation also does not contain requirements for such an important group of products as food, while procuring entities apply environmental requirements when purchasing food often (Research Report, 2016).

To conclude, green public procurement is an innovative concept for Russia, implying rational, optimizing spending of public funds, using market opportunities to significantly increase the environmental and social benefits at the local and global levels. The introduction of the concept of environmentally friendly public procurement into the Federal contract system of Russia should become an instrument of state policy for the economic development of the country without harm to the environment and quality of life of the population.

3.3.2. Public policies related to CE/CPP/SPP

The main public bodies in charge of building CE and CPP or SPP policies

The main public bodies in charge of building Circle Economy are the Government of the Russian Federation, the Ministry of Nature and Ecology and the Ministry of Economic Development.

The main public bodies responsible for public procurement policy are the Ministry of Economic Development, the Government of the Russian Federation, the Ministry of Finance, the Federal Treasury. At the local level it is the regional and the municipal authorities.

Since there is currently no national strategy in CPP in Russia, there are no specific bodies responsible for implementing measures for circulation procurement.

A national action plan regarding CPP, SPP or CE

A holistic national strategy in this area does not exist. However such strategic planning documents as “Concept of Long-term Socio-economic Development of the Russian Federation for the period until 2020”, “Strategy of Innovation Development of the Russian Federation for the period until 2020”, “Strategy of Scientific and Technological Development of the Russian Federation until 2035”, “The Basics of National Policy of Environmental

Development of Russian Federation until 2030” emphasize that PP could be one of the tools for achieving goals of sustainable development. This is due primarily to the lack of government will and proper attention to this topic from the Federal Government.

The future policy lines and steps regarding CE and CPP or SPP

It is possible to apply environmental criteria by 44 FZ at the federal level. Also, governmental support for SMEs can be considered as an element of social sustainability of public procurement. A certain share of tenders is intended to SMEs only.

The Russian public procurement system actively supports both small and medium-sized businesses with those laws: 44-FZ and 223-FZ. The law itself define the minimum percentage in the annual volume of purchases from the SMEs. There are different forms of attracting SMEs into government purchases: set-a-said auctions, subcontracting etc. The SMEs supporting policy via the public purchases is increasing; the changes of the law 223-FZ in 2018 have defined the conditions to simplify the rules of conformity of assessment requirements for the SMEs when participating in the public procurement.

Some regions are making steps to implement an environmental procurement.

The issue of sustainable and green procurement is increasingly discussed publicly and scientifically. NGOs working in the field of environmental protection are developing some environmental criteria and requirements for the products to help their customers; a significant research ongoing. However, there is lack of political will and no strong and strategic federal concern on the subject of SPP. At the same time, Russia's potential is high.

Implementation of national policy objectives to local political level

Currently, at the regional level the SPP/CPP is administered by only one region of the Russian Federation which is the city of Moscow. In 2010 the Government of Moscow adopted a resolution where a clear list of environmental criteria for suppliers was established. But this policy was not fully and successfully implemented. Currently Moscow is facing with the task to evaluate and improve this supplier selection system. Individual customers, especially those working in industries with a risk for the environment (petroleum companies such as Gazprom, LUKOIL, ROSATOM etc.) have also increased environmental criteria for suppliers.

3.3.3. Support in Circular Public Procurement (CPP)

Capacity building regarding CPP

Currently there is:

- an adjusted system of regulatory and legal regulation of procurement activities

- a unified public procurement portal (zakupki.gov.ru) where you can place requirements, instructions, criteria
- competent national specialists in this field
- different industrial and entrepreneurial associations
- SME support infrastructure where it is possible share experience, conduct training etc.

According to a recent study (Shadrina, Belokrylova, 2016) approximately 50% of the buyers are aware about SPP/CPP, 50% is not aware, but 25% said they are ready to learn, only 25% said that they don't have any need for this approach. Therefore, the customers' training organisation of, CPP, SPP and GPP implementation will promote the CPP further.

Some universities (e.g. Perm campus HSE) have already included for 7 years the sustainable procurement in their Master's curricula.

Raising public awareness of CPP importance; organising CPP, SPP and GPP training; procurement bodies, academics and NGO interaction - will contribute to reinforced CPP implementation. However, for the widespread of CPP systematic implementation it is necessary to have the state will and national plan.

The main problem is that the European countries, unlike the Russian Federation, are involved in international networks to promote the SPP, while Russia has stayed on the sidelines. In addition, the EU purposefully carries out norm-setting in this area, which all countries are obligated to follow in one way or another. Russia does not have such rigid commitments on sustainable development.

Public procurement guidelines or criteria including CE measures

There are translations into Russian of the UN Sustainable Public Procurement Implementation Guidelines and Procura+ manuals. However, there is no deeper specificity for different industries as well as with respect to particular elements of the procurement circularity (criteria for durability, reparability, re-use, life cycle assessment). It is possible to conclude lifecycle contracts for 44 FZ, however, most customers and suppliers do not have a clear methodology for calculating the life cycle of products, so they prefer not to apply it. On the relevant portals of the EU such criteria and detailed guidelines are available, but they are in English.

Knowledge on currently used criteria

In Russia, there is no systematic approach to the application of procurement criteria but individual examples and practices can be identified. For purchasing all sorts of goods, services and works customers abide by the GOST (state standards) and other national

standards requirements. These standards consist of only basic general requirements, including those, relating to environmental protection. Apart from the state standards, some procurement entities use additional requirements (Shadrina, Gracheva, 2017; Shadrina, 2018).

Examples of requirements:

- No toxic substances
- No GMOs
- Indication of the minimum permissible proportion of surfactants
- Gentle cooking methods
- Reusable packaging
- Packaging from recycled materials
- Replaceable parts: cartridges, mechanics, etc.
- The estimated cost of the life cycle
- The require of a warranty period (very common)

However, it is impossible to say whether the application of additional environmental criteria or CPP criteria is widespread.

Another CE principle actively applied in Russian public procurement is not the purchase of a product but rather its function. Thus, the practice of purchasing transport services, cleaning services, copy machines' maintenance is very common. There is also a great potential here for the wider application of service or functions purchases.

Such SPP criteria as the existence of a recycled materials fraction in the products, the environmentally friendly waste disposal requirements, the purchasing of products that could be transformed during their life cycle for future use are practically never applied. It should be noted, that according to the law, the procurement entities are required to purchase only the new products.

Such inactive implementation of any environmental criteria by the procurement entities is primarily caused by the lack of legislation, also by the absence of guidelines, absence of developed environmental requirements and criteria for specific product groups. The development of these standard environmental criteria will undoubtedly contribute to the active promotion of CPP, SPP and GPP in Russia.

3.3.4. Viewpoints on market maturity and conditions promoting CPP

Existing structures and networks supporting CPP

Some of the environmental organizations like Ecological Union of St. Petersburg are very experienced in these subjects. Moreover academic institutions also pay attention to CE and CPP, they doing researches, contribute to raise awareness of CPP, including CPP and SPP to the curriculum.

Relevant stakeholders in developing new circular based markets, ecosystems and value chains through public procurement

It is necessary to involve primarily three groups of stakeholders: representatives of government bodies, representatives of suppliers and business and representatives of the academic and expert community.

3.3.5. Key remarks

- First, Circular public procurement have not been raised to national policy level as an objective. There is need a clear signal from the government that CPP and SPP are important.
- There is a need to include the concept of sustainable public procurement into the Federal contract system of Russia. Currently, there is lack of strategic federal concern on the subject of SPP. However, at the same time, Russia's potential for sustainable procurement is high. Possible platforms, support tools and specialists can be identified and they could be utilized for sustainable procurements.
- Sector public institutes (subject to 223-FZ), are much more flexible in potential possibilities to use the principles of sustainable procurements than the sector of public bodies (subject to 44-FZ).
- Local authorities are allowed to introduce some elements of SPP policies.
- Developing of a guidelines of SPP implementation, a list of ecological and circular requirements and criteria for different groups of products, and providing of CPP training for all stakeholders of CPP could be a strong driver towards CPP and SPP implementation.
- CPP development should go in parallel with the evolution of the innovative production, the use of recycling and reuse technologies.

3.4. Latvia

3.4.1. Public policies related to CE/CPP/SPP

The main public bodies in charge of building CE and CPP or SPP policies

CE is a horizontal issue and the leading role is taken by MoEPRD (Ministry of Economy and Ministry of Agriculture, Environmental Protection Department). The Cross-sectorial Coordination Centre has not yet been involved in CE topic. However, they are responsible for Sustainable Development Strategy and monitoring of implementation of SDG. GPP is covered under UN Sustainable Development Goals 12.7⁸.

A Sustainable Development Strategy of Latvia until 2030⁹ was written in 2010. Although at the time CE was not yet paid attention to, there are CE connections in some of measures:

- Practice of Open Innovations (promotion co-operation Research to Business, SME to SME)
- Innovative Entrepreneurship (promote)
- Creation of Market Instruments (promoting eco-efficiency)
- Capitalisation of Natural Assets (promoting ecologically certified products)

National action plan regarding CPP, SPP or CE

National Level

There is a National action plan (2015-2017) with regard to GPP. Latvian GPP guidelines to large extent reflect EU GPP Guidelines. However, there is no national plan specifically on CE, but currently an informative report is under work. Promoting CE is a cross-sectorial issue, and some events has been arranged to discuss about it. The way in which the EC defines this topic is the full life cycle from the extraction of raw materials until waste recycling or disposal and management. At the one moment, the emphasis is put on waste - reduction, recycling, management, etc. However, the wider perspective of CE includes ecodesign (and that is field of the Ministry of Economy), and bioeconomy (the Ministry of Agriculture is in charge for that). Both ministries are developing informative reports on its subject. The bioeconomy strategy in Latvia addresses only few industries, e.g. organic food, pharmaceuticals, plastic. At present, it is planned that a working group will be set up to work more closely on food waste prevention. It includes food waste and food safety standards, as well as food banks.

⁸ <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

⁹ https://www.pkc.gov.lv/sites/default/files/inline-files/LIAS_2030_en_1.pdf

Local Level

There are different plans at local level connecting to the area of CE, for example Liepaja City Sustainable Development Plan 2030 (adopted 2017) and Liepaja Sustainable Energy Development Plan 2014-20120 refers to GPP (Green public procurement). In Liepaja City Sustainable Development Plan there is nothing specific regarding CE, only general aim at being a sustainable city.

The future policy lines and steps regarding CE and CPP or SPP

National level:

In the near future MoEPRD is initiating a working group directly on the CE. GPP will be one of the aspects of CE tools. Together with the Latvian Association of Local Governments aim is to carry out informative seminars in the regions about the CE.

Implementation of national policy objectives to local political level

There are no national policy objectives yet.

3.4.2. Support in Circular Public Procurement (CPP)

Capacity building regarding CPP

National level

Currently the GPP unit at MoEPRD serves as GPP helpdesk. GPP unit co-operates, for example, with Central Finance and Contracting Agency (CFCA) explaining and teaching how to implement existing GPP criteria. GPP guidelines have been elaborated. Also local governments are consulted by MoEPRD.

Local level

There are CCP projects and research going on at local level. EKOF is providing trainings, for example, the training of Jurmala municipality how to use e-procurement.

Public procurement guidelines or criteria including CE measures

National level

Current GPP guidelines have some references to CE, for example, LCA, LCC. These criteria to large extend comply with EU GPP criteria, and they are obligatory for certain groups, however, it depends on actual situation.

Local level

There is no requirement yet to focus on CE criteria, however, as much they are in the GPP they are used. It is responsibility of each E-Procurement catalogue developer to use GPP criteria and to find the best state of the art.

Knowledge on currently used criteria

National level

National action plan (2015-2017) with regard to GPP is implemented with regard to legislative development, but not with regard to GPP percentage among all public procurements. One challenge is, that the recording system for GPP has changed. Large part of state institutions and local authorities regard GPP as formal requirement. Most of GPP are implemented in food and catering sector, but also in construction works. However, there is no collected data about implementation level of criteria. The responsible for surveillance is Central Procurement Bureau, but they are not controlling procurements on single criteria level.

Local level

Examples on criteria in local level (provided by EKOF):

- Requiring warranty period
- Reused toners, or toners with guaranteed taking back for reuse.
- Pens with refillable cartridge.
- Maintenance service for copiers
- Assembly of the IT equipment e.g. tailored approach.

Examples on criteria in local level (provided by EC):

- ICT: maintenance included in contract, available reparation service.
- So far LCA, LCC based criteria have not been used.
- Older cars, when not needed for city administration, are given further to other city institutions. Sometimes old car is given to car supplier as first payment.

Financial support or arrangements for CE related projects

Symbiosis is a very important aspect of CE since businesses via cooperation can use something what is waste for other company. Latvian Investment Development Agency offers a program to bring together different entrepreneurs and entrepreneurs with scientists to find new business and research to use existing opportunities and create new ones.

It is planned to create small micro-sites or sections of websites owned by MoEPRD, the Latvian Association of Local Governments, and perhaps elsewhere, where CE would be described and this would be a place for the contacts and ideas to emerge. It will also describe CE principles, steps to achieve it, but the most important thing how the entrepreneur can benefit from it. However, also consumer must be educated in order to develop a CE related consumption pattern.

3.4.3. Viewpoints on market maturity and conditions promoting CPP

Alternative business models enhancing CPP

National level

So far needs and challenges have been identified. Good examples and pilots are needed in order to demonstrate positive effects. Learning from each other is very important. There is a need for a platform where local authorities could exchange examples. There has been discussion about renting transportation service for governmental needs, but not yet implemented. Last year GPP increased thanks to public service providers, for example, procuring transportation service but not vehicles.

Local level

Liepāja city administration purchases ICT from local companies, which are also maintaining it. City administration has an IT unit, who is storing out-dated computers for details/repairing old computers; schools are using the same approach. Liepāja Business incubator could be utilised for CE ideas.

Product groups with a significant potential in Latvia:

- 1) The IT sector - there are small firms that collect the out-dated equipment - phones, tablets, laptops, etc. Restores and trades at a lower price.
- 2) Textiles – second hand trade - RFID, Humanas, etc., as well as all websites - andelemandele.lv, atverskapi.lv; Buy, sell, change - Facebook pages, etc. However public authorities do not procure such.
- 3) Cars - Lithuania, Latvia loves to buy cars from Germany, to restore and sell on the spot, as "a little used car from Germany". Of course, the motivation is not really environmentally driven. But it corresponds to CE.
- 4) Furniture - in Latvia there are a lot of furniture and interior items stores for used "Furniture from Holland, Germany, Scandinavia, etc." But this is not a "pure" model. Public authorities do not procure such.
- 5) Tires - Companies that repair car tires and sell them are enough. Definitely will not be a CPP because the lifetime of the recycled tires warranty is short.

3.4.4. Key remarks

- There is no national plan specifically on CPP but a National action plan (2015-2017) with regard to GPP has been compiled.
- Discussion around CE has started. The CPP will be regarded as part of GPP (or vice versa), but a decision has not been taken yet. Individual activities on CPP have already commenced both in national and local level.
- There is a need for more encouraging examples and capacity building but also the co-operation between actors in procurement process must be strengthened.

3.5. Poland

3.5.1. Public policies related to CE/ CPP/ SPP

The main public body in charge of CE and CPP or SPP policies is the Ministry of Entrepreneurship and Technology, Ministry of Environment, Public Procurement Office. The Ministry (former Ministry of Economic Development) prepared a draft of a Roadmap for Transformation towards circular economy.

The preparation of the Road map has included a strong stakeholder co-operation. The draft was presented to a governmental working group (which was established by the Minister of Economic Development in June 2016 and included representatives of all interested ministries) for discussion. In addition, four multi-stakeholder working groups were established to discuss the following topics in more details: 1) waste, 2) bio-economy, 3) circular economy business models, 4) education and promotion. The groups gathered key experts from universities, NGOs, enterprises, as well as local and national administration. The aim of the multi-stakeholder groups was to approve the content of the draft of the Roadmap. The work on the Roadmap draft was finalized earlier this year and the document was published for inter service and public consultations which were finalized in March 2018. In the current draft, the following policy areas are prioritized: sustainable industrial production (industrial waste, extended producer responsibility, environmental footprint), sustainable consumption (municipal waste, food waste, education), bio-economy, new business models.

Currently, there is also an ongoing work to design a new public procurement policy in Poland. One of its important components will be a green public procurement programme. Other governmental initiatives connecting to CE has been under work. There has been a GreenEvo Programme established by the Ministry of Environment with the aim to support export of Polish green technologies. Also The Ministry of Entrepreneurship and Technology is currently working on a programme called GreenInn which has been marked in the Strategy

for Responsible Development of Poland. The aim of the Programme is to develop a wide public ecosystem for the support of green/circular technologies in Poland.

3.5.2. Support in Circular Public Procurement (CPP)

Inter-service and public consultations, exchange of experiences are currently applied capacity building activities. In addition, specific guidelines are being planned. Guidelines will be built upon the life cycle assessment concept, in which the environmental impact of the acquired goods and services should be assessed for their entire lifespan. In addition, the new public procurement policy will seek synergies with other existing schemes, including EMAS, ISO 14001, etc. The environmental aspects are planned to be included at different stages of public procurement, including the description of the good/service to be procured, their technical specification, qualification and exclusion criteria, realization clauses, etc. Some CE projects can also be financed from the structural funds.

3.5.3. Viewpoints on Market maturity and conditions promoting CPP

Relevant stakeholders in developing new circular based markets, ecosystems and value chains through public procurement have been identified as follows: public administration, academia, NGOs, business, research and development entities, society at large.

3.5.4. Key remarks

- Circular public procurements have not been raised to national policy level as an objective. However green public procurements will be included in the upcoming national procurement policy and there probably will be also elements from CE. Also a governmental road map on CE is under work.
- Upcoming policies and the commitment of key stakeholders will dictate the level of practical work done in the future in CPP.
- Until now the work for support in CPP is in early phase.

3.6. Finland

3.6.1. Public policies related to CE/CPP/SPP

The main public bodies in charge of building CE and CPP or SPP policies

Governmental duties on procurement are divided:

- Ministry of Finance is responsible for government's procurement
- Ministry of Economic affairs and employment is responsible for legislation on procurement and innovative procurement

- Ministry on Environment (MoE) is responsible for actions towards sustainable procurements
- All ministries actively work on promoting sustainable and innovative procurement. For example, the Ministry of Transport and Communication actively works on implementing the low emission vehicles and alternative transportation options through public procurement.

There is a close co-operation between ministries in procurement topics but also other governmental sectors are involved. In March, 2018, the Finnish government established a new Competence centre on sustainable and innovative procurements (KEINO)¹⁰ as a result of this collaboration. KEINO's major objectives for 2018–2021 are:

- the number of innovative and sustainable procurements in Finland will increase
- public procurement is recognized and actively used as a management tool
- contracting entities openly disseminate information on their own and experiences and learn from one another.

In practice, KEINO competence center is a network formed by eight organizations, including Motiva, Hansel Ltd¹¹, Association of Finnish municipalities, Joint procurement organization of Finnish municipalities, Sitra, VTT Technical research centre and Finnish Environment Institute (Syke). The aim is to combine the expertise in these member organizations and spread the knowledge on sustainable and innovative procurement to regional and local actors. Motiva, the Focal Point for Sustainable and Innovative Public Procurement¹², leads the KEINO consortium.

Sitra, The Finnish Innovation Fund, has a significant role in promoting circular economy in Finland and public procurements are one key measure presented in the SITRA's circular economy road map. Sitra is looking for sustainable procurements with high effectivity. The role of Sitra is to launch new practices and to stimulate governmental organizations but also other actors like municipalities.

National action plan regarding CPP, SPP or CE

National Level

National goals are defined in Government Decisions-in-Principle (e.g. The promotion of Sustainable Cleantech solutions in public procurement and Evaluating catering service procurements in the public sector, 2013). The government decision-in-principle on the

¹⁰ <http://www.procurementcompetence.fi/>

¹¹ The Government's central purchasing body.

¹² https://www.motiva.fi/en/public_sector/public_procurements

promotion of sustainable environmental and energy solutions (cleantech solutions) in public procurement states that in all government procurements, the goal is a comprehensive solution that promotes energy and environmental goals and utilizes cleantech solutions in the most economically advantageous way. Although there is no explicit reference to the circular economy in the document, specific attention is paid to sectors such as food and catering, vehicles and transport, construction, energy, services and energy-related products¹³.

In 2012, a Programme to Promote “Sustainable Consumption and Production, More from Less – Wisely”¹⁴ was adopted. This programme aims to reduce the environmental impacts and greenhouse gas emissions of households and the public sector. Programme has an emphasis on sustainable public procurements.

There is a national road map to Circular economy and the implementation programme¹⁵. Also in new national waste plan (NWP)¹⁶ there are several measures around public procurements linked for example to circular economy, reuse, recycling in construction and demolition, avoidance of food waste, EEE and WEEE and waste avoidance and management of municipalities. Aims for managing wastes and circular economy in construction sector are included in NWP. There are also initiatives on promoting low-carbon building. Goals are also set in the medium term climate change policy plan

Local level

An example of a local level implementation is City of Jyväskylä. In 2013, Jyväskylä was nationally rewarded for taking environmental aspects into account in procurements. The basis for strong knowhow in sustainable procurements has been built during past years. Sustainable procurements are mentioned in strategic level of city. There are 4 key areas in the strategy of Jyväskylä and sustainable use of resources and wisdom of resources and sustainable procurements are included. Aims are set separately in the procurement strategy of the city. Aims and indicators are set for sustainable procurements, not for circular procurements. In 2017, City of Jyväskylä has compiled a road map for effective procurements and their environmental impacts. Some of the effectivity elements include also sustainability.

¹³ <http://www.ym.fi/download/noname/%7B3901F888-CDEF-4CA3-BFAB-C4E8163B6DED%7D/109838>

¹⁴ http://www.ym.fi/en-US/The_environment/Sustainable_consumption_and_production

¹⁵ <https://www.sitra.fi/en/projects/leading-the-cycle-finnish-road-map-to-a-circular-economy-2016-2025/>

¹⁶ http://www.ym.fi/en-US/The_environment/Waste/The_National_Waste_Plan

The KEINO competence centre has undertaken a nation-wide survey¹⁷ on the state-of-art of implementing sustainable and innovative public procurement strategies in public entities in Finland. According to the survey, around 80 % of public procuring units have strategic alignments for public procurement, and environmental and social responsibility is taken into account almost in half of the organizations (KEINO, 2018).

The future policy lines and steps regarding CE and CPP or SPP

National level

Sustainable procurements are included in the government's action plan for years 2017-2019. Situation varies in respect of future alignments and needs. There is a discussion on mandatory procurement criteria in significant procurements. However, it must be noted that GPP criteria is not necessarily applicable in all cases. In addition it is difficult to say whether new political goals are set in the EU level. There might be more focus on voluntary and supportive policy tools. In general MoE sees procurements as very effective way to change things. The public presentation of forerunners and good procurement examples and new solutions might be good way to inspire other actors.

Green Deal (voluntary agreement between government and other key actors) is considered also a suitable policy tool for public procurement. There is a Green deal for plastic bags in use in Finland and other agreements are also in process. One important way to enhance circular procurements is to increase piloting of new procurements.

MoE sees that co-development and dialog has increased in markets. The mind-set of actors in the market can strongly contribute increase of circular procurements.

Implementation of national policy objectives to local political level

National level

Ministry of Environment estimates that national goals are not implemented extensively in a local level. There has not been any systematic attempt to influence all procuring units and actors (for example procurers in municipalities) except governmental procurers.

MoE sees that there should have been more communication and advise for local actors on government decisions. According to MoE, municipalities and cities have set targets for procurements in political level but the change from policy level into real practices takes time.

¹⁷ <https://www.hankintakeino.fi/fi/julkisten-hankintojen-tila-suomessa/julkisten-hankintojen-strateginen-johtaminen>

It must also be acknowledged that the use of sustainable criteria does not automatically lead to sustainable procurement. Price is still in many cases the dominant criterion. There is also fear for procedures of market court. It must also be kept in mind that usually procurer's main target is not to promote circular economy but rather to provide cost-effective and quality public services. New practices can have global scaling possibilities.

3.6.2. Support in Circular Public Procurement (CPP)

Capacity building regarding CPP

In Finland, national GPP criteria have been developed for seventeen product groups by 2016 by Motiva, the Focal Point for Sustainable Public Procurement. Since 2018 the KEINO network has provided instructions, advice and sparring for sustainable and innovative procurement, newsletter on current topics in procurement and networking of clients and suppliers. KEINO's main duty is to disseminate information on contracting entities, best practices and procurement. KEINO also expedites a wide adoption of pioneer networks, experiences and lessons learnt.

In addition, Sitra and the Finnish Environment Institute launched a project (2018 – 2018): Accelerator for circular and low carbon public procurement that speeded up the realization and implementation of low-carbon circular economy solutions through public procurement and reinforced a public procurement culture and decision-making that facilitate the progress.

Public procurement guidelines or criteria sets that include CE measures

National level

Guidance with different scopes has been prepared and even more is under work. There is guidance for public procurements in construction and low-carbon construction. The first mentioned guidance will include a calculator to assist procurers in the procurement process.

Specific criteria will be formulated for public demolition undertaking and public wood construction by 2019. Procurement units can use the guidance applied to their own purposes. Reuse and recyclability are included in the criteria of the guidance.

Local level

From the perspective of local actor, the national level guidance is thought to be very useful. Also the knowledge within the city (transportation services, waste management) is often

utilized. Different projects (for example: Towards resource wisdom 2013-2015¹⁸) provide important information as well.

In general there is a need for information on circular economy at a local level. It seems that available information covers just the minimum level. For example best practices could be more accessible. One challenge is that information is fragmented all over. It would be good if all data would be available in one place. Networks do not necessarily spread the information to wide masses. It is a challenge that all procurers are not interested in circular economy.

Different circular economy related criteria have been used e.g. product guarantee, take-back of packaging and their appropriate waste management, recyclability of products, reuse of old computers within the city units, leasing of computers.

City of Jyväskylä tries also to use efficiently already procured products (office furniture is reused within the city). Also avoidance of food waste has been one key matter in procurements of food services.

Knowledge on currently used criteria

National level

There is not much record on the use of different criteria in procurements.

Currently the Ministry of Environment has been undertaken a tour of Smart low-carbon public building construction, including guiding events in nine municipalities. This tour of events is aimed on accelerating the construction of low carbon and circular public buildings on the area of sustainable procurements in construction. The interest of municipalities varies a lot. Some forerunner cities (for example “the Carbon Neutral Municipalities HINKU forum”¹⁹) are very positive towards the subject. Companies have also participated the events and there has been dialog between business and municipalities on possibilities are sustainable procurements possible.

Local level

City of Jyväskylä is developing follow-up indicators for sustainable procurements and amounts of used criteria will be one indicator. The baseline is measured at the moment after which the target level will be set. Environmental accounting of Jyväskylä includes some figures for example the consumption of energy or how big share (%) of procurements included environmental criteria.

¹⁸ <https://www.sitra.fi/en/topics/resource-wisdom/#latest>

¹⁹ <http://www.hinku-foorumi.fi/en-US>

The road map of resource wisdom in Jyväskylä is under update. New percentual goals are probably going to be set.

Financial support or arrangements for CE related projects

National level

Green funding is developing. Municipal Finance is offering green finance (loans and leasing) for the environmentally friendly projects. Green finance is offered to selected projects that promote the transition to low-carbon and climate resilient growth. There is also funding for energy efficient renovation projects. In addition Nordic Investment Bank offers green funding.

There is a growing interest towards sustainable co-procurements. However, for example Construction sites are all very different and also forms of contracts vary. MoE estimates that Green deal – agreement could be suitable arrangement in connection of demolition projects and road construction, for example.

Local level

From a local point of view, green deal sounds interesting opportunity to provide assistance in procurements. It could be suitable in areas where special knowhow is needed for example challenging product groups. Also hazardous substances in products and eco-design could be possible subjects.

3.6.3. Viewpoints on Market maturity and conditions promoting CPP

Alternative business models in enhancing CPP

One challenge in enhancing circularity is that use of waste materials instead of virgin materials includes risks. MoE sees that a lack of information hinders promoting circular economy.

New business models on leasing instead of ownership are needed. Service provider could manage materials and products taking into account the whole life cycle. Reuse markets for furniture need enhancing.

Existing structures and networks supporting CPP

National level

There are not enough markets for recycled materials in construction and demolition. MoE estimates that it is a significant bottle-neck. Products with recycled materials should be CE-certified. There is not requirement framework for reused product parts. However, in certain material groups (metals, insulators) recycling rates can be significant.

Demolition audit and a guide for demolition should be performed before the procurements in demolition case. Ministry of Environment is running a project where demolition audits are tested in real environment. According to MoE procurers in construction are interested in material management.

In addition digital systems are developed to serve construction procurements. The electronic waste shipment document is also under development. Despite of many initiatives, MoE thinks that there is not enough detailed counseling on procurements in construction.

In general, one challenge is that at the present municipalities do not consider use of recycled materials as a profit for their image.

Local Level

From the city perspective, there is not enough circular economy based service concepts available in the market.

In large and broad-ranging procurements, the sustainability can be forgotten whereas in small procurements circular aspects are easier to include. There is always need for reasoning if more expensive procurement is about to be chosen.

Procurement legislation presents the LCC but the guidance to use it is inadequate. Municipalities may also fear for using LCC in case of potential disputes. LCC fits better for certain product groups. All the same, municipalities could possible use LCC more in procurements.

Relevant stakeholders in developing new circular based markets, ecosystems and value chains through public procurement

National level

In the area of construction certain materials can be recycled within the sector and some materials suits better to industrial production. Key players vary. MoE sees that public procurers are in a significant role. For example City of Helsinki has hired a coordinator to enhance the use of secondary materials in earth construction. It is also possible that use of secondary materials in earth construction might be restricted for some reason.

Local level

From the local procurers point of view, it is difficult to see who are the most important players. The resources and knowhow of the city employees are restricted. The development work in procurement should be supported by external experts. Projects and networks play a crucial role in this. It is also important that the city managers will strategically allocate enough resources for this work.

The market dialogue is important and for example Jyväskylä arranges “procurer evenings” for companies. In these events city inform companies and relevant actors about upcoming procurements. Also requests for information are carried out through national tender database HILMA in order to find out the supply in the market. In addition a provincial procurement seminar is arranged every year. The seminar is directed for procurers, city managers and entrepreneurs.

3.6.4. Key remarks

- Promoting CE is included as a significant objective in several national policy programmes and initiatives. Circular public procurement as a concept is gradually increasing in policy discussions. Yet, a lot is done under SPP and GPP, in which ministries are co-operating.
- Government has invested in promoting sustainable procurements. There are regulatory but also voluntary tools in use. Establishment of the KEINO network reflects the commitment of government.
- Despite of the national contribution, it was estimated that national goals are not necessarily implemented extensively at a local level.
- Different circular economy related criteria are in use at local level. Special attention has been paid to construction sector.
- Some local challenges were identified: not enough circular economy based service concepts available, need for information on circular economy e.g. best practices could be more accessible, municipalities do not consider use of recycled materials as a profit for their image.

3.7. Netherlands

3.7.1. Public policies related to CE/CPP/SPP

The main public bodies in charge of building CE and CPP or SPP policies

A government-wide policy program for CE has been written for all ministries and presented to parliament in 2016. In the lead are the ministries of Infrastructure and Water Management (responsible for the Environment policy field) and Economic Affairs and Climate.

The ministry for Internal Affairs is in the lead with public procurement of national government. Since both the 12 provinces and 380 municipalities are autonomous they develop their own policies. On the national level we work with category management in which one ministry takes responsibility for the purchasing of a certain category of goods for

all other ministries (so a combination of cooperation and specialization). In total there are more than 30 product categories.

National action plan regarding CPP, SPP or CE

CPP is already a common concept in policy discussion. There is a national policy letter on CE²⁰. In the beginning of 2017 a materials covenant was signed between national government and nearly 400 industry organisations, individual companies and NGO's. As a result of this five so called transition agenda's in collaboration with companies, industry organisations, NGO's have been delivered in January 2018. These transition agendas on 1) bio mass and food, 2) plastics, 3) manufacturing, 4) construction and 5) consumer goods are not available in English yet.

The ministry of Internal affairs has developed policies for responsible procurement which deals with environment, international labour conditions, Dutch labour market and innovation. Five ministries together with several provinces and municipalities have signed a manifesto on societal responsible procurement. Circular economy is mentioned as one of the aims.

The future policy lines and steps regarding CE and CPP or SPP

Actions from transition agendas will be taken on as described above.

Implementation of national policy objectives to local political level

As above, municipalities are autonomous. Several municipalities have signed the manifesto on responsible procurement and made an action plan.

3.7.2. Support in Circular Public Procurement (CPP)

Capacity building regarding CPP

PIANOO, the Dutch Public Procurement Expertise Centre, was set up to professionalise procurement and tendering in all government departments, with a view to improving efficiency and compliance with the rules. Professional procurement can contribute to successful policy and offers value for taxpayers' money. PIANOO brings procurement and tendering experts together, pools knowledge and experience and provides advice and practical tips. The Expertise Centre also fosters dialogue between public contracting authorities and private sector companies. PIANOO is part of the Dutch Ministry of Economic Affairs and Climate Policy²¹.

²⁰ <https://www.government.nl/documents/parliamentary-documents/2016/09/14/letter-to-parliament-on-a-government-wide-programme-for-a-circular-economy>

²¹ <https://www.pianoo.nl/nl/pianoo-in-english>

Next to that RWS has developed international capacity building materials which also are available in our own country: an online introduction on the topic, a workshop for budget holders, a short training and a longer training.

Public procurement guidelines or criteria that include CE measures

Guidance's on circular procurement are available on handreiking²² in Dutch. Environmental criteria documents for several product categories exist and are updated regularly. Circularity is getting attention, for instance use of recycled materials, design, recyclability²³. There are also several guidance documents about LCC, how to engage the market, innovation procurement, etc. available at pianoo.nl.

Knowledge on currently used criteria

The criteria are voluntary and available for all public (and private) procurers. There are no hard figures about the use of these criteria. A recent study (RIVM 2018) of the national institute for public health and the environment estimated that SPP was part of about 80% of public tenders.

Financial support or arrangements for CE related projects

There is a Green Deal Circular Procurement, started in 2013 by amongst others Rijkswaterstaat, Pianoo, NEVI (association of procurement professionals) and CSR Netherlands. 45 organisations are participating. A new green deal will be signed on June 2018. The aims of the new green deal are on the one hand help starting organisations to set up their first pilots, on the other hand support specific questions and bottlenecks from advanced participants, like scaling up pilots and creating commitment in your organisation. More information about Green Deal²⁴.

As part of the CE program networks for procurers in several categories are being set up to collect and share learnings on CPP.

3.7.3. Viewpoints on Market maturity and conditions promoting CPP

Alternative business models in enhancing CPP

Business models are the initiative and responsibility of producers and suppliers and each will develop their own business model. Procurers need to understand these to a certain level, but more important they need to realise that each of these business models leads to one of

²² <https://www.pianoo.nl/nl/themas/maatschappelijk-verantwoord-inkopen-mvi-duurzaam-inkopen/handreikingen-mvi-0/handreikingen-circulair-inkopen>

²³ <https://www.pianoo.nl/nl/themas/maatschappelijk-verantwoord-inkopen-mvi-duurzaam-inkopen/productgroepen>

²⁴ <https://mvonederland.nl/green-deal-circulair-inkopen> (in Dutch).

only three procurement/contract concepts: 1) buy – resell (to the supplier); 2) buy – sell (to a third party); 3) product service systems (pay for the performance).

Existing structures (e.g., recycling systems, aftermarkets etc.) and networks supporting CPP

Netherlands are in the middle of a transition. Our existing systems (re-use and recycling of a lot products and materials) do support this transition and many stakeholders endorse the circular economy, but in day-to-day operations they still stick to a linear way of working. Existing structures therefore need to change. Several networks support CPP, for instance CSR Netherlands or network of public waste collectors NVRD.

Relevant stakeholders in developing new circular based markets, ecosystems and value chains through public procurement

Stakeholders can be divided into two categories. Internal stakeholders (central government) include category managers, procurers, policy makers, budget holders and strategic advisors and external stakeholders include suppliers, organisations like CSR Netherlands and PIANOo.

3.7.4. Key remarks

- There is large collaboration between governmental organisations, private actors and NGO's in promoting CE in policy level. CE has been acknowledged as a key objective. Policies are built in national as well as in local level.
- CPP is a recognised concept among key stakeholders.
- The PIANOo, the Dutch Public Procurement Expertise Centre with an emphasis on stimulating markets for sustainable products provides information and different tools for national and local procurers but also for business.
- A lot of work has been done in connection of policy tools, co-operation between key stakeholders and markets. On national level there are numerous examples of different initiatives; policies, green deals, research, guidelines and criteria which can support also the work in other EU countries. Yet there are challenges in changing existing traditional practises to new ones in procurements.

4. Circular public procurement cases and practices

In this study we collected existing examples and practices of circular procurement cases and calls for tender in order to support the previous analysis of current policies in place related to circular procurement in the different countries of the Baltic Sea Region and identification of the main existing gaps. Instead of gathering a statistically representative sample and making generalizations, the aim was to find different approaches how circular elements can be addressed in public procurement processes. The aim is not only to find best practices but to indicate how well and in which form circular aspects are now being realized in actual procurement cases and calls for tender.

4.1. Circular aspects in public procurement cases

Circular public procurement has been used as a common term although no standard definition or description exists for the concept. According to common understanding, circular procurement refers to procurement of products or services that follows the principles of circular economy (Alhola et al., 2018). However, there are 114 circular economy definitions which can be coded on 17 dimensions, and most frequently the circular economy is depicted as a combination of reduce, reuse and recycle activities (Kirchherr et al., 2017). In other terms, specific areas on interest in the literature regarding circular economy have been value retention and closed loop value as well as clean cycles (Geissdoerfer et al., 2017; Alhola et al., 2018).

Ellen MacArthur (2012) has presented the closed loop model in which biological and technical materials (and the products/components based on them) cycle through the economic system. In the model, value creation stems from keeping products, components, and materials in use longer within the circular economy by four main circles, including maintenance, reuse/redistribute, refurbish/remanufacture and recycle. The closer the system gets to direct reuse, i.e., the perpetuation of its original purpose and value retention, the larger the cost savings should be in terms of material, labour, energy, capital and the

associated externalities, such as greenhouse gas (GHG) emissions, water effluents and toxic substances. Such shifts primarily require greater durability, reparability etc. In addition, separation and returning of parts to cycle should not cause toxic or harmful impacts. (Ellen MacArthur, 2012).

In this study we use the definition that has been developed from these principles in the previous studies (e.g., Alhola et al. 2018) (Figure 2) according to which circular procurement is: “A procurement of competitively priced products, services, or systems that lead to extended life spans, value retention, and/or remarkably improved and non-risky cycling of biological or technical materials, making use of and supporting the circular business models and related networks.” This definition highlights closed loops, efficient use of materials and non-risky cycles but it should be noticed, however, that these principles should not compromise the overall goal of sustainability. Thus, circular procurement is a part of green and/or sustainable procurement.

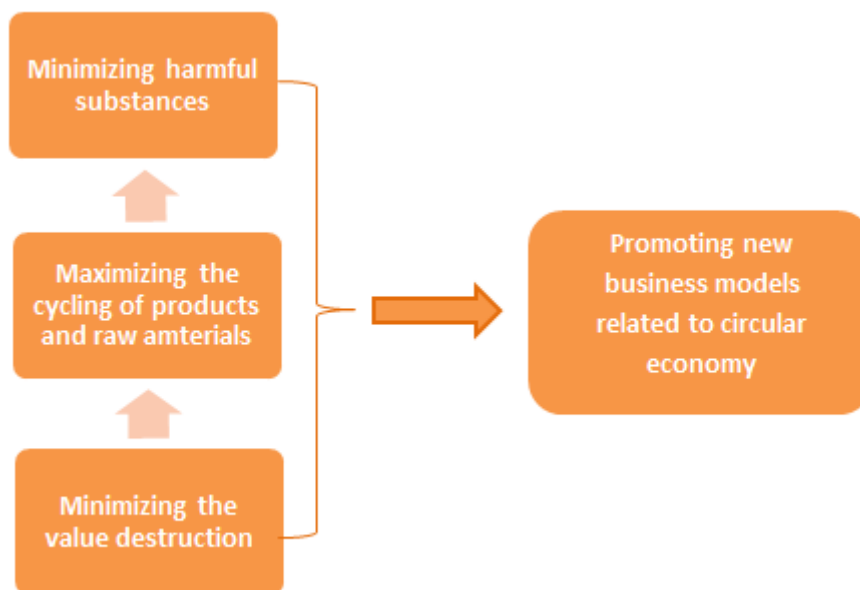


Figure 2. Circular economy principles in procurement
Source: Ellen MacArthur Foundation, 2015b.

4.2. Circular procurement cases

Circular procurement cases were identified and typed according to the extent to which circular economy was the fundamental starting point for the procurement and to the extent that circular economy principles were followed in the procurement process. In the cases this occurred by several means:

- 1) Extending the product lifespan
- 2) Using the product or service more efficiently
- 3) Improving the cycling of biological or technical materials
- 4) Providing clean and non-risky cycles

Several requirements and criteria can be set to support the CE principles, e.g. maintenance, reuse, redistribute, refurbish and recycle (Appendix 4). In addition, we mapped procurement cases in which certain tools had been used in the procurement process to address circular elements, including eco-design as a basis for design, LCC as a basis for cost calculation, or eco-label criteria and GPP criteria that support recycling, reuse, recyclability, non-toxicity, etc.

Several sectors and product groups were found as potential for circular public procurement, such as construction, transportation, waste management, waste water treatment, food and catering, furniture and textiles. Examples of public procurement cases in these sectors are presented below.

Waste water treatment and waste management

Sewage sludge treatment technology – City of Oulu, Finland

Key circular points:

- Improved cycling of biological materials and clean cycles of nutrients
- Development of new clean technology and service based circular business model
- Development of co-operation and promotion of systemic change
- Use of innovation partnership in procurement process

Procuring unit: Oulu Waterworks – a company owned by city of Oulu

Time of procurement: 2018 - 2019

Description of the procurement:

Oulu Waterworks prepared a tendering process on sewage sludge treatment, which introduced an innovative and sustainable treatment for sewage sludge. Procurer aimed at a cost-efficient solution for sewage sludge treatment as an overall service complying with the

principals of sustainable development. Overall service must be adjusted to the changes of the operational environment and legislation requirements. The amount of the sewage sludge is 35 000 tons/year and planned contract period is about 10 years.

Circular aspects in the procurement:

Principles of CE, i.e. reuse of the treated sewage sludge is focused on during the whole process. Innovation partnership is used in this procurement. The method was selected due to the fact that there was not a suitable solution available in the market. Supplier is expected to develop the idea or concept during the innovation partnership to meet the procurer's needs. Solutions adapting to the needs will be developed together with the purchaser and supplier. Currently, Oulu waterworks is carrying out a three year (2017-2019) preparatory project "Treatment chains and solutions for sewage sludge complying with changes – Case Oulu waterworks" linked to the procurement, financed by Business Finland. In the planning phase, suitable partners were searched using an innovation partnership procedure. Small and medium-sized enterprises are expected to provide additional value for the solutions.

Role of market dialogue in circular procurement process:

Market dialogue was started by organizing a kick off meeting on 27 November 2017. Over 60 participants attended the first session. In addition, in January 2018 bilateral meetings with potential suppliers were arranged as a part of market dialogue. There was also a possibility to participate the meeting together with the subcontractors/partners or as a consortium. Another market dialogue event targeted to suppliers was arranged on 22 February, 2018. Information on contract clauses of the innovation partnership was shared and networking between companies was possible. Another negotiation round was arranged during March and April.

The new solution enables treatment of sludge in the biogas facility and the biogas will be used for the own use of Oulu Waterworks, and also refined as biogas for traffic. The end product will end up to products in earth construction.

Benefits and impacts of the procurement:

One benefit of the innovation partnership was that after development period the products and concepts under development were not needed to be tendered but procuring unit could buy them directly from the companies within the partnership.

Success factors and lessons learnt:

The use of treated sewage sludge is according to the principles of CE. However the present chain of treatments is in turning point. There are market based restrictions for agricultural

use and compost treatment is not favored anymore. Environmental permitting is tightened and in the near future it might be possible that different legal based requirements or restrictions are set for different treatment processes. According to the principals of CE, the aim should be in procuring products with high degree of processing. Also safe and efficient recovery of nutrients should be paid attention to so that harmful substances would be removed from the cycle. Also the traceability of raw materials is highlighted so treatment chain and possible harmful substances in the end-product must be known. Solutions for overall procurement covering whole treatment chain is the co-operation based on innovation partnership where new products, treatment processes and service ensemble together with procurer and supplier.

Supporting factors: The sewage sludge treatment service must be proactive according to the changing law.

References: <http://www.oulunvesi.fi/tulevaisuudenliete>

Service for biowaste and sewage sludge treatment– Porvoo, Finland

Key circular points:

- Improved cycling of biological materials and reuse of nutrients
- Cleaner cycles and more efficient treatment processes
- Clear signal to the market of the need to intake more nutrients in the process

Procuring unit: City of Porvoo, 2015

Description of the procurement:

The aim of the procurement was to improve the recycling and reuse of phosphorus and nitrogen. The recycling of nutrients was included in the procurement process of the treatment of sewage sludge and biowaste for the first time in Finland. The annual volume of the service was 24,500 tonnes of sewage sludge and 6,000 tonnes of biowaste.

Circular aspects in the procurement process:

The circular aspect of the procurement was to improve the recycling and reuse of phosphorus and nitrogen through the treatment service. The procurement was undertaken as a joint procurement of several waterworks facilities and biowaste management facilities. The cycling of nutrients was included in the definition and objectives of the procurement. Prior to the formal call for tender, a request for information was sent through HILMA, the

national tender database, in which potential suppliers were informed about the requirement to recycle nutrients. Potential suppliers were also invited to discuss their views about the requirement.

A competitive procedure, i.e. negotiation, was used as a procurement procedure. This enabled the discussion about circular aspects, and the recycling and end use of nutrients in particular. The procurer requested that the potential suppliers provide a description of how the aspects regarding energy efficiency and the cycling of nitrogen and phosphorus would be processed and optimized during the service. Possibilities for the location of the end product were also requested.

Benefits and impacts of the procurement:

As a result of the negotiations, several technical criteria were stipulated in the final call for tender, stating that a minimum of 80% of the nitrogen delivered to the treatment plant must be directed to be used as a fertilizer product or industry chemical, and only 20% may end up in the local waste water treatment plant.

References: Alhola, K., Salmenperä, H., Ryding, S-O. & Busch, N., 2017. Circular Public Procurement in the Nordic Countries. TemaNord 2017/512. Nordic Council of Ministers.

Multilocker waste collection system and smart sensors – Porvoo region, Eastern Finland

Key circular points:

- Improved cycling of technical materials
- Remarkable improvement in recycling rate
- Better utilization and value retention of or raw materials
- Intake of new service concept

Procuring unit: Rosk'n'Roll Waste Management Service, provided by Rosk'n Roll Oy Ab and Itä-Uudenmaan Jätehuolto Oy, 2013

Description of the procurement:

To provide the main waste management obligations of the municipalities, according to the regulations and orders, performing the tasks in effective manner and saving the environment, irrespective of the borders of the municipalities. The number of the inhabitants in the territory is 228 000, consisting of 37 500 real estates.

Circular aspects in the procurement:

Multilocker collection system is offered as an option. The system includes separate lockers for cardboard, paper, mixed waste and glass and metal. Mixed waste is targeted to energy recovery and other fractions will be used as raw material in industries.

Since 2012 the waste management company has used a wireless sensor technology (Enevo Ltd) in its 24 mixed waste collection points. Sensors measure how fast containers are filling up and when they are full. Sensors also report when the bins should be collected. The system calculates optimal routes and times in real time, according to which the logistics is carried out.

Benefits and impacts of the procurement:

Due to the sensor technology, remarkable savings in fuel consumption and CO₂ emissions have been gained. The cost saving is around 35 000 € annually. The overall efficiency of the service has increased, as the emptying rate has decreased (from 4469 to 3354).

References: <http://www.roskroll.fi/roskroll/briefly-in-english/>

Construction and maintenance

Recycling of bricks – Copenhagen, Denmark

Key circular points:

- Improved recycling of technical material
- Closing the loop by requiring recycled material
- LCA based information of old bricks available

Procuring unit: Copenhagen, Denmark

Time of procurement: 2015 - 2016

Description of the procurement:

Construction of new school buildings at Katrinedals School in Vanløse using recycled bricks from the demolition of a building (building 13 at Bispebjerg Hospital, Copenhagen).

Circular aspects in the procurement process:

In the tender competition, the procurer asked for the greatest possible recycling of construction waste from building 13. As an option, the builder could choose to waste all facade bricks for recycling. This usually requires strict requirements for demolition and

handling of the bricks so that they are retained intact, which must be included in the additional price. Quality requirements from the recipient of brick for recycling and agreements entered into between the contractor and the recipient were purely a matter between the contractor and the recipient. If the developer chose to make use of the option, it is the contractor's responsibility to make sure that it would be possible.

Role of market dialogue in circular procurement process:

The tender documents were prepared with existing drawings and information about the building, provided by the developer. An inspection was held at which tenderers were invited to test the information submitted during the review. The developer received 4 offers for demolition work with various offers on the option.

Benefits and impacts of the procurement:

The price was competitive in relation to new bricks. Derivative expenses may not occur, e.g. in connection with handling and mowing with recycled stone. The quality corresponded to the quality of corresponding new brick if it is important for the building component. The recycling rate with regard to the weight of cleaned stone relative to the weight of the amount of rubble introduced was between 5 and 21% which was very surprising and far below the expected result, which they had anticipated a recycling rate of around 50%. Experiments were made with improved demolition technique, but the company old brick did not face capacity to shred the large blocks, which were therefore discarded, which greatly contributed to the low recycling rate. Masonry with recycled stone is not problematic and it does not take longer. There are some conditions that are different from masonry with new stone and cement mortar.

Success factors and lessons learnt:

The demolition of building 13 on Bispebjerg occurred as an ideal project for recycling of bricks because of its size in terms of the demand on red bricks. There was a close co-operation among different actors in the construction, e.g.; City of Copenhagen, developer from Katrinedal school, Region Hovedstaden, developer from Bispebjerg Hospital, JJW arkitekt, design of new construction at the Katrinedal School, Sweco, design of the demolish at Bispebjerg Hospital, Old Brick, Recycled the old bricks Olesen, Demolition contractor, E. Kornerup A/S, Newbuilder contractor. A follow-up group participated in the project consisting of, for example, the Environment Agency, the Traffic and Construction Agency and Dansk Byggeri.

Supporting / restrictive factors: There is a lack of current expectations on the provision of

the old brick and quality of these between demolition contractor and the company that was supposed to clean the bricks. Demolition contractor had an economic advantage to deliver all the unclean brick unsorted to the company, thereby reducing the cost of delivering bricks to receiving systems and receiving fees.

The Copenhagen City Climate Plan 2025 and documentation requirements for the environment in construction mean that the municipality generally wishes the recycling of construction waste.

Through ETA Denmark, a process has been initiated for the CE marking of recycled brick, which will be the first CE mark of recycled products.

References: <https://vcob.dk/byggeaffald/materialefraktioner/materialer/mursten/faglige-rapporter-om-tegl-og-mursten/>

Construction of housing building – Odense, Denmark

Key circular points:

- Improved clean cycles
- Regeneration in terms of renewable energy

Procuring unit: Municipality of Odense

Description of the procurement:

Procurement of building with requirements on energy efficiency and minimization of the use of undesired chemicals. This is a strategic goal, which was now translated into the project of the construction of 40 new homes for young people with disabilities.

Circular aspects in the procurement process:

The most relevant circular aspects considered were the use of recycled construction material in the building façade, the substitution of high environmental impact materials such as PVC coatings with linoleum and solar energy for water heating and efficient lightning infrastructure.

Benefits and impacts of the procurement:

- Applying the measures that can guarantee a higher environmental performance of the building generated a 5% increase above the "average cost". However, the Environmental Steering Group in charge of the project, expects this costs to quickly be offset based on reduced operations costs as well as justified by CO₂ reduction.

- The buildings follow the energy class 2 construction - that is, an energy class better than the law requires. Therefore, energy consumption and CO₂ emissions are the main environmental benefits. However, phasing out of hazardous chemicals has also been accomplished.
- The innovative aspect of this procurement is in the procedural process, where an Environmental Steering Group was tasked with coordinating environmental efforts throughout the planning and execution phase.

References:

<https://ansvarligeindkob.dk/case/miljoeffektiv-byggeri-i-odense/>

<https://ansvarligeindkob.dk/case/odense-svanemaerket-boernehus/>

Recycled material in construction of infrastructure – Turku, Finland

Key points:

- Closing the loops by using recycled materials in construction
- Co-operation among procurers and other actors

Procuring unit: City of Turku

Description of the procurement:

City of Turku has among other Finnish cities committed itself to use recycled material and improve material-efficiency in the planning and construction of infrastructure projects. The aim is to promote circular economy and reduce environmental impacts of construction of infrastructure.

Circular aspects in the procurement:

Recycled glass, recycled asphalt and crushed concrete from the demolition sites are already used in many infrastructure construction projects in the city.

Recycled grass is used for example as fulfillment when lighter materials are needed. Recycled asphalt is used in living streets and housing streets as well as in building the cycling roads. Crushed concrete that comes from the demolition sites in the city area, is used for layers in the infrastructure.

Benefits and impacts of the procurement:

The use of recycled asphalt reduces remarkably the need for new oil based material in

asphalt production and thus CO₂ footprint becomes smaller. City of Turku is also leading the way in the use of recycled material in the region. These actions also implement the strategy of carbon neutral Turku in 2040.

References: https://www.turku.fi/uutinen/2017-06-20_turku-edistaa-kiertotaloutta-rakennushankkeissa-uusiomateriaalit-kayttoon

City Hall, C2C inspired building – Venlo, the Netherlands

Key points:

- Regenerative nature, e.g., renewable energy and purification of air
- Improved recycling of materials
- Based on eco-design

Procuring unit: City of Venlo, 2015

Description of the procurement:

City Hall Venlo's design is an example of applying the Cradle to cradle design principles on building scale.

Circular aspects in the procurement process:

City hall Venlo is designed for its users and residents, culture and place, and to anticipate future innovations and continuous improvements at all scales. The aim is to create a comfortable and healthy working environment, combined with sustainable innovations. Cradle to cradle ambition was translated in the programme of requirements, and further acted as a basis for the architectural tender procedure. Venlo asked architects to present their vision on the assignment, with special attention to cradle to cradle. The important elements in the winning bid were:

- 1) a living green facade that cleans the indoor and outdoor air of the building
- 2) the use of appropriate materials which can be recycled after they have been used
- 3) the generation of more renewable energy by the building than the building will use.

Benefits and impacts of the procurement:

- Investment 16.8 million euro's in 40 years with a return on investment of 11,5 %.
- The building will purify the outdoor air quality
- The building will generate renewable energy, filter and infiltrate water.

References: http://www.c2c-centre.com/sites/default/files/Case%20Study%20City%20Hall%20Venlo_Final.pdf

Street lightning - Preiļi, Latvia

Key circular points:

- Use of GPP criteria that support circular aspects
- Easy maintenance
- Improved recyclability

Procuring unit: Preiļi municipality, 2015

Description of the procurement:

Renovation of street lightning. This represents an example of a Green Public Procurement case with some circular requirements. An open tender for direct service contract was used.

Circular aspects in the procurement process:

Technical specifications included: quality, energy efficiency, easy maintenance and recyclability requirements.

The easy maintenance requirements included:

- Access to the light source without the instrument application
- Access to the luminaire internal blocks without instrument applications
- The possibility to exchange the light source on the ground
- Recyclability included:
- Luminaire is made from 100 % recyclable materials at the end of life

Benefits and impacts of the procurement:

The replacement of existing lightening with this saved 70% energy (CO₂ emission reduction 8 CO₂ t/year). The cost savings have not been estimated.

References: http://primes-eu.net/media/12194498/higher-energy-efficient-street-lighting_js.pdf

Transportation

Biogas buses travelling by locally produced biogas – Vaasa, Finland

Key circular points:

- Regenerative by utilizing locally produced bioenergy
- New concept and local system was created based on co-operation
- Promotes the private market intake of biogas vehicles

Procuring unit: City of Vaasa, 2015

Description of the procurement:

Another example of circular procurement in public transportation is the use of vehicles run by a locally produced biogas. Buses that use locally produced biogas were implemented as part of public transportation in the City of Vaasa.

Circular aspects in the procurement process:

The city organized two separate tender competitions 1) for the service provider and 2) for the biogas vehicles, including their maintenance. The City of Vaasa committed to buying twelve biogas buses and to release them to the use of the service provider, who in turn has committed to take these vehicles into use for the next five years. This helps transfer the business risk from the service provider to the procurer. In addition, the city made a contract with a local biogas producer, Stormossen, who in turn organized the biogas delivery network tendering.

Benefits and impacts of the procurement:

As an outcome, a new business ecosystem was developed that includes the more efficient utilization of waste and biogas production from local waste. There was also an aim to expand the biogas network to the private market. Expected savings for the biogas buses amounted to 1,000 tonnes of CO₂ per year.

References: Alhola, K., Salmenperä, H., Ryding, S-O. & Busch, N., 2017. Circular Public Procurement in the Nordic Countries. TemaNord 2017/512. Nordic Council of Ministers.

Procurement of 300 three-section trams – Moscow City, Russia

Key circular points:

- Design phase is paid attention to

Procuring unit: Mosgortrans – a public transport company owned by city of Moscow

Time of procurement: The procurement was held in 2016, the supply will be processing from 2017 to

2019.

Description of the procurement:

The Moscow city made a procurement to buy the new rolling equipment and to repair the tram railways. In 2016 the state unitary enterprise (SUE) Mosgortrans concluded a contract for the purchase of 300 three-section low-floor trams, the deliveries of which will be held from 2017 to 2019 (100 cars per year). Also, in 2016 53,1 kilometers of tram ways were reconstructed with utilization of noise reduction technologies.

Circular aspects in the procurement:

All amortized trams were given to towns Tula, Novosibirsk, Smolensk, Tomsk, Omsk, Tver and Irkutsk

Role of market dialogue in circular procurement process:

There is no exact information about the market dialogue. However, this procurement was certainly encouraged by the deep research over the best and up-to-date experience of the European cities like Berlin, Prague, Budapest and Rome. Probably some kind of applied studies, brainstorming and kick-off meetings were made before the tender was announced.

Benefits and impacts of the procurement:

All impacts are not reported yet. However, it is possible to say that an important distinctive feature of the new model of the tram is the special design of the tram car which helps the traffic to become more comfortable for passengers (including disabled persons) and less noticeable for residents of houses located near the tram lines.

Supporting factors: The city administration makes lots of efforts to make Moscow more citizens and tourists friendly space that's why it provides leased traffic line for the electric transport and special traffic lights regime on the streets.

References: <http://www.mosgortrans.ru/?id=598>

Car pool – City of Lappeenranta, Finland

Key circular points:

- Sharing concept was used
- Improved intensity of use
- Service concept was used instead of buying product

Procuring unit: City of Lappeenranta

Time of procurement: Spring 2018

Description of the procurement: Procurement of a car pool -service. During working hours, cars are available for municipality personnel but out of the working hours, all residents in the city can rent them.

Circular aspects in the procurement: The subject matter of the contract itself is according to CE business model 'sharing'.

Role of market dialogue in the procurement process: First discussions started already 1,5 years before the actual procurement. Three service providers were interested in developing a new service concept that was not available in the market at the time. The first market dialogue concerning the procurement was held in spring 2017 where the procurer informed potential suppliers about the municipality's need and idea of car sharing. 5 – 6 potential services providers attended in the actual market dialogue.

One of the most important issues to discuss was the payment system, i.e., how would expenses change due to the use of cars by other than municipality personnel. What kind of logic would be reasonable to all: to the procurer, service provider and residents as users. During the market dialogue, procurer and potential suppliers were able to build the system for pricing and risk sharing.

Benefits and impacts of the procurement:

The service took place in May 2018 so currently there are no longer-term experiences yet. However, the attitude of residents is positive towards the service, and the use of shared cars is expected to increase.

Success factors and lessons learnt: Procurer was able to assess the need for shared cars and the amount of cars needed. An application that allowed for shared use of the existing car fleet was first piloted prior the actual procurement of car pool service. The experiences from the share-it application indicated that there could be demand for car pools. The need for shared cars was well estimated although no inquiry about potential users was made.

Supporting factors: City of Lappeenranta is engaged with ambitious carbon emission reduction strategy. Thus the procurement of car pool was according to the strategy. In order to increase the use of shared cars, the municipality should acquire more charging points in the city and nearby.

References: Petri Kero presentation in HINKU workshop, Lappeenranta 18.4.2018

Food and catering

Sustainable public kitchen and catering – Sodankylä, Finland

Key circular points:

- Use of automatization and new technology that reduce the amount of waste in the food chain
- Value chain design from the environmental point of view

Procuring unit: Municipality of Sodankylä

Description of the procurement:

Continuous improvements in the resource efficiency of food chains have been taking place for several years. The procurement function pays attention to how products and raw materials enter the stock, how they will be handled and processed, packed and delivered. In addition, seasonal food opportunities, local production and co-operation, logistics, experiments and product development as well as innovative recipes are included in the overall planning of circular food procurement. Attention is paid to how to most effectively process different food and raw materials in the kitchen instead of ordering pre-processed food products.

Circular aspects in the procurement:

Technological applications have helped in timely deliveries and processing of the food. For example, cooking at night and freezing unused food are possible due to technological solutions. The new central kitchen is “a small-scale food factory” which allows for the processing of components. This reduces the need for daily deliveries and the amount of waste food.

Benefits and impacts of the procurement:

Biowaste is reduced, partly because the food can be semi-finished and frozen before the final cooking stage. Also, the sizes of the ordered lots are carefully considered in the procurement phase.

References: Alhola, K., Salmenperä, H., Ryding, S-O. & Busch, N., 2017. Circular Public Procurement in the Nordic Countries. TemaNord 2017/512. Nordic Council of Ministers.

Furniture and fixtures

Learning Environment for public schools – City of Aalborg, Denmark

Key circular points:

- The procurer's need is described in the subject matter of the contract
- Eco-design and lifecycle approach is used
- Extension of lifespan is paid attention to
- Recycling and reuse of old furniture are paid attention to

Procuring unit: City of Aalborg

Time of procurement: Start 1th January 2018 and will last for 2 + 2 years

Description of the procurement:

The City of Aalborg implemented a circular public procurement of learning environment in the municipal primary schools. The tender must provide the framework for how to recycle and repair the furniture to the municipality's primary schools. Instead of investing in brand new furniture and throw the old away, the task will be furnishing classrooms with a mix of new, recycled and refurbished furniture.

Circular aspects in the procurement process:

Environmental and social sustainability were focused on in the tender competition. The schools have a great focus on external expertise where the supplier's role is to inspire and challenge the usual way of organizing the furniture in the classroom. An external expertise process focusing on the influence and co-ownership of the school's staff will be required to ensure the successful organization of furniture in the classrooms and using the new learning environments. The new learning environment will create the ultimate framework for the children's well-being and their learning. In the tender it is considered positive than the retrofitting of old furniture is made by employees on special terms. There is no label on school furniture in Denmark but criteria for furniture in the swan label were adopted in the tender as minimum criteria.

Environmental criteria were included as minimum requirements in the technical specifications:

- A minimum five-year guarantee on the lifetime of new furniture
- A minimum two-year guarantee on the lifetime of the refurbished part of the furniture
- A minimum five-year guarantee on spare parts

- To provide a service which informs schools once a year during the total warranty period of the relevant maintenance services available and advised for each product
- Use of packaging made from only recycled materials
- Labelling of plastic parts above 50 grams for recycling
- Ensure that at least 70% of wood used comes from sustainable sources

Award criteria in the most economically advantageous tender:

- Quality of the offered interior design - 20%
- Quality of advice for interior design - 20%
- Economy - 20%
- Circularity - 40%

Circularity consisted of the following:

Lifetime - 30%

- Product life guarantees on new furniture which exceed the minimum requirement of five years
- Provision of an effective user manual for easy maintenance
- Service and maintenance - 25%
- Spare part guarantee which exceed the minimum requirement of five years
- Products can be disassembled into different parts for replacement and refurbishment

Reuse - 20%

- Reuse of existing furniture (above the minimum of 20% required by the example case design briefs)
- Handling of furniture for reuse, that is, minimization of environmental impacts in the process, such as transport impacts; Refurbishment - 15%
- Refurbishment of existing furniture, i.e., replacing a tabletop, or recoating and repainting, etc.
- Refurbishment is carried out by employees on special terms, that is, employees who are disabled or receive social assistance

Material recycling - 10%

- New furniture is made from recycled materials and/or materials recycled with the refurbishment of any existing furniture at the schools
- Any leftover furniture parts are recycled

Role of market dialogue in circular procurement process:

Circular economy tool was developed and used in the market dialogue and forming the

award criteria.

Altogether seven separated market dialogues with companies (furniture manufacturers, furniture sellers and interior designers) were conducted. In the tendering process, eight companies applied to become pre-qualified, five of which became pre-qualified. Further, three companies chose to make an initial offer.

There was a round of negotiations on the initial offers, which made the final offers precise and relevant.

Benefits and impacts of the procurement:

Social benefits: The project involved the schools having a great focus on co-designing the new learning environments together with the suppliers. The new learning environments will improve the well-being of children and thus their learning abilities. It is also expected to decrease the days of sickness for students and teachers when the learning environments are designed to fit the latest knowledge and practice. New learning environments follow the requirements that the new school reform prescribes. Experiments indicate that with the right equipment the grades among students increase and students that have had trouble fitting in (in a normal school setting) thrive better.

Economic benefits: Total Cost of Ownership (TCO) has been considered for internal use to visualize the financial gains that the new learning environments have on the School Administration's budget. However, it has not been possible to calculate a TCO, as there are not yet great experiences with the new learning environments. However, by calculating the expenses for temporary staff, learning lessons and pricing better learning, higher grades and movement, it can be a very big saving for the municipalities.

Environmental benefits: The majority of the environmental impacts of furniture are linked to the use of materials (whether wood, plastic or metal), and the processes used to manufacture these materials into furniture components. As the use phase of furniture results in virtually no environmental impacts, any extension to the lifespan of furniture items has a direct environmental benefit. As a result of Aalborg's framework contract, the Municipality's School Department is also in the process of setting up a register of surplus furniture for all schools and school-based leisure facilities. This register will contain information about all furniture that is deemed to be in such good condition, that it can also be reused in another establishment without refurbishment.

Impact on business and innovations: Aalborg municipality has a sustainability strategy and procurement policy that supports green change, including using procurement for that. There has been some attention to the tender in Denmark and Europe. City of Aalborg has won an award of Denmark's best tender 2017.

Success factors and lessons learnt:

Market dialogue prior to the call for tender revealed that while the market was prepared for environmental demands, circular procurement presented new challenges. It showed that some examples of re-use were already taking place, which demonstrated that these challenges can be overcome. Monitoring is an important step in ensuring that framework contracts achieve their objectives. Under this framework, the supplier is required to write a report each year for the Municipality, which shows the 'circular' results achieved so far, for instance, the number of re-used or refurbished furniture compared to new furniture in the designs of classrooms, and how many employees on special terms were involved in the refurbishment.

Internal and external cooperation is very important. The Procurement Department, the Environmental Department and the Schools Department all worked together to devise the framework agreement. The level of external support from services such as the 'Travel Team for Green Procurement' and the 'Green Travel Team' were new steps in the process for Aalborg. Travel Team for Green Procurement is collaboration between the Danish Environmental Protection Agency and the Danish Standardization body. They organized two workshops for procurers on Total Cost of Ownership (TCO) and circular economy. University of Aalborg's and Aalborg municipality's 'Green Travel Team' aims to foster cooperation between students and SMEs and outlined a catalogue of suggestions for refurbished furniture, which could inspire the development of a circular tender. By spending this time upfront, the Municipality was able to rethink what they wanted and how to get it, and thereby transform their approach from simply buying furniture to focusing on designing, sustainability and effective learning environments. University of Aalborg assisted in relation to a description of cases used to make the tasks of the tender visible. There was an external expert in the procurement, and close co-operation among actors. The Network for Sustainable Business Development North Denmark assisted with knowledge about circular economy.

Supporting factors: The project management of the learning environment project was organized in the environment department. The Purchasing Department and the Environmental Department were in the same top level management with the same top management and political level.

References:

http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue79_NewsAlert_March.pdf

Rental nursing beds – Helsinki hospital district and Helsinki city, Finland

Key circular points:

- New business concept (leasing of furniture instead of buying)
- New (eco)design development and construction
- More intense use of products due to moderation

Procuring unit: Helsinki hospital district (HUS), and City of Helsinki, 2015

Description of the procurement:

Helsinki hospital district (HUS) and the city of Helsinki tendered the maintenance and rental of nursing beds instead of procuring the beds.

Circular aspects in the procurement:

The supplier delivered the beds and mattresses according to the patient's needs. A new business concept was created: the bidder (Lojer Ltd) takes care of maintenance, service and repair of 3 000 beds, and reports these to the client. In the Helsinki home hospice care, the delivered beds were designed to that they were easy to transport, fitted through small doorways and into lifts, and opened up into normal use position in a few minutes, using its own motor.

Benefits and impacts of the procurement:

The volume of the service contract was high, so that Lojer was able to hire more personnel. Increasing volume enables continuous development of the business concept, i.e. offering the most comprehensive service instead of product.

References: <https://suomalainentyo.fi/2015/02/02/lojer-voitti-merkittavia-kilpailutuksia/>

Inspirational and collaborative workplace – Wales, the United Kingdom

Key circular points:

- Buying working environment instead of furniture
- Innovative solution
- Reuse and refurbishment were paid attention to
- More intensive use of common space

Procuring unit: Public Health Wales (PHW), 2016

Description of the procurement:

Relocation of several smaller offices to one new large open office incorporating the transfer of around 500 staff. The aim was to create a unique workplace environment designed to encourage a collaborative, social and learning focused workspace with sustainability as a core principle.

Circular aspects in the procurement:

PWH took an innovative approach to procuring office equipment, furnishing sand flooring using as much re-used and remanufactured equipment and products as possible. PWH wanted the bidder to use as much of the existing office furniture as was reasonable: repairing and refurbishing where necessary and adding new elements as required. The tender stipulated the need to combine existing, re-used and remanufactured items as a core requirement, along with a design concept fitting with PWH's aspirations for collaborative workplace.

Benefits and impacts of the procurement:

Around 2500 items were used for the office refit: 45 % being re-used, 49 % being re-made and 6 % of the items were sourced from new stock. In total, the project saved around 123 tonnes of CO₂ which is equivalent to traveling around 400 000 miles by car.

References: Case study: An Inspirational & Collaborative Workplace – environmental and Sustainable Procurement impacts achieved. Public Health Wales Sustainable Procurement Case Study. GIG NHS, wrap, Interreg Europe.

Innovative procurement strategy to embed circularity – Wales, the United Kingdom

Key circular points:

- Reuse and refurbishment were paid attention to
- More intensive use of common space

Procuring unit: City and County of Swansea Council, 2017

Description of the procurement:

Transition from traditional individual offices to a flexible and agile working environment. Adoption of a novel approach to procuring furnishing sand flooring. The procurer explored innovative ways to re-use and refurbish their existing furniture.

Circular aspects in the procurement:

Tender specifications outlined ambitious requirements for existing furniture and flooring to be re-used, refurbished and incorporated into the new layout.

Benefits and impacts of the procurement:

- Agile working practices have reduced the need for space by approximately 25 %.
- 486 items of furniture have been re-used or remanufactured, which has reduced the around 7,8 tonnes from landfill and led to a total saving of 29,1 CO₂ tonnes.
- 44 % of total floorspace was carpeted with reused carpet, which has reduced waste-to-landfill by 2,39 tonnes and resulted in CO₂ saving of 4,5 tonnes.

References: Case Study: An Innovative Procurement Strategy to Embed Circularity in Swansea Council’s Civic Centre Office Refurbishment. Wrap.

Textiles

Bioplastic aprons for hospitals – Skåne, Sweden

Key circular points:

- Co-operation among actors
- New design was paid attention to
- Innovative procurement

Procuring unit: Region Skåne

Time of procurement: 2015 - 2016

Description of the procurement:

Aprons made of renewable raw material.

Circular aspects in the procurement:

Bioplastic aprons are a result of an innovation process funded by The Swedish Energy Agency (Energimyndigheten). In the planning phase the aim of the procurement was more of an innovative procurement than a circular procurement. A project group was formed by environmental, health care, business, and innovation specialists that followed the whole project.

Role of market dialogue in the procurement process:

Market dialogue was held so that companies could learn more about the process. An industry designer also helped with ideas on how to design the aprons. In addition, a tender-school was a part of the market dialogue. In the procurement process, companies had to apply for leaving an offer. All 4 companies were accepted to the next step where they presented the idea, and afterwards they were given feedback to further develop their product. At this stage there was a possibility to get some funding (through the project funding) for further development of the product. The more the

product met the criteria, the higher was the funding they received.

Benefits and impacts of the procurement:

- Economic benefits: 30% lower cost per year
- Environmental benefit: annual CO₂ emissions is expected to decrease 250 tons
- Impacts on business: All companies improved their product during the process. GAIA, the winner, raised the part of renewable material from 84 to 91% and made it 25% cheaper along the way. Even the companies that did not win the tender could improve their business model.

Success factors and lessons learnt:

The co-operation and forming of the project group were crucial success factors in the process. One lessons learned was that not all companies were interested in only selling as many aprons as possible, but also to learn along the way. This innovative process led to new market possibilities for the companies, and they started to develop other products as well, from the knowledge they received during the process.

A consultant were a part of the project to make a certain level LCA-analysis, i.e. looking at all stages, including transport, processing, raw materials etc. in order to make sure that the aprons really became more environmental friendly.

The process was very expensive considering that the product (apron) itself was a simple product. However, the process was designed so that the knowledge and experiences gained can be implemented in the coming processes.

References:

https://www.upphandlingsmyndigheten.se/globalassets/publikationer/exempelblad/exempel_innovation_regionskane_forkladen_webb_uppdaterad.pdf

Service agreement of workwear– Odense, Denmark

Key circular points:

- Innovative solution
- Cleaner cycles
- Resource-efficiency is paid attention to in the supply chain
- Ambitious environmental criteria according to Nordic Swan label
- Reduce resource consumption

Procuring unit and time of procurement: Odense Municipality

Description of the procurement:

Procurement of workwear for over 2200 health employees. The agreement covered the provision, washing and maintenance of the clothes. The procurement was a service agreement, not product supply.

Circular criteria in the procurement process:

The focus of the procurement was on innovation, sustainability and life-cycle of the product. The tender had a 20% weighting of life time sustainability of the clothing. All laundry and detergents are Nordic Swan labeled. For textiles, this included environmental requirements related to production of fibers, padding and other materials, use (and avoid) of chemicals, energy and water consumption, packaging, storage and transportation.

Benefits and impacts of the procurement:

- The winning tender resulted to a saving of 27% of a contract volume. This corresponds to savings of 1.5 million DKK a year, which totaled 9 million DKK for the entire contract period.
- Resource consumption has been reduced through a narrow product range of standard products.
- Vendors presented an innovative offer where their products are seen from a life cycle perspective. In this, recycling is intended from the start rather than a linear process.

References:

EU Commission. 2019. Supplying sustainable garments for health professionals, Odense Municipality (Denmark). GPP in practice. Issue no. 87, April 2019.

Protective gloves for public health care– Tampere, Finland

Key circular points:

- Cleaner cycles
- Better recyclability
- Criteria on social responsibility

Procuring unit: City of Tampere, 2015 – 2016

Description of the procurement:

Procurement of protective gloves for public health care of Tampere City. Previously used

gloves have been made of PVC. There are different kinds of environmental and social risks connected to the production, use and waste management of PVC material. The vinyl gloves have caused skin irritation for their users. PVC is also a problematic material in the end of its life cycle because it isn't suitable for processes of waste management, not for recycling neither to incineration. Change to a new material made this cycle cleaner than before.

Circular aspects in the procurement process:

The specific criteria in the procurement were connected to sustainable development and particularly social responsibility. One requirement was that bidder or manufacturer of the products was committed to the labor standards of International Labour Organisation (ILO). Bidder was required to provide a social responsibility report or corresponding document which clarifies how labor standards are applied. The winning bidder is implementing their social responsibility under the UN Global Compact commitment. The realization of the social responsibility work is followed up every year during the contract period.

Benefits and impacts of the procurement:

- Nitrile gloves were chosen to be procured. Their unit price is higher compared to PVC gloves. Product range of gloves has been wide and earlier nearly ten different kinds of gloves have been in use. The costs of the whole life cycle were calculated in connection with the procurement and it was noticed that with a big volume of nitrile gloves the price is decreasing compared to other types of gloves. Also costs of logistics were lower. Calculations showed that City of Tampere will get the product with 100 000 euros lower costs and get a better quality product with a better protection.
- In addition to the better social responsibility of the procurement the material efficiency improved. PVC gloves are not as durable and they get easily broken. Therefore less material is consumed because nitrile gloves last longer. Since there is no need for different kinds of gloves anymore, the logistics improved and made the procurement more efficient as well.

References: Enni Leppälä / Tampere 31.5.2018

Leasing clothes for stewards – The Netherlands

Key circular points:

- Improved reuse and recycling
- Economically wise
- Eco-design

Procuring unit: Rijkswaterstaat, the Netherlands, 2016

Description of the procurement:

As part of a 2016 pilot reflecting the Dutch government's aspiration to achieve maximum re-use and recycling, 50 lock stewards were issued with caps, polo-shirts, raincoats and fleece jackets made of 100% recyclable polyester materials.

The project's goal was also to determine whether the idea of manufacturing, deconstructing and then remanufacturing workwear made environmental and economic sense on a broader scale.

Circular aspects in the procurement:

As part of a commitment by the Dutch Government to achieve maximum re-use and recycling, REBus worked with RWS to set up a pilot, exploring the potential for remanufacturing workwear. RWS needed to know if used clothing could be 'deconstructed' successfully back into its component materials and then be used to create more clothing. The pilot delivered a performance-based contract with Dutch aWEARness in which the supplier continues to own the clothing through a lease agreement. Used clothing is then returned to the supplier to be recycled.

Benefits and impacts of the procurement:

Minimal new raw materials are needed for new workwear and no waste has to be incinerated.

References: <http://www.rebus.eu.com/wp-content/uploads/2017/05/REBus-Case-Study-RWS-Workwear.pdf>

Appliances and ICT devices

Printing equipment for Electronic Procurement System – Riga, Latvia

Key circular points:

- GPP procurement with some circular elements
- Extension of lifetime was paid attention to

Procuring unit: State Regional Development Agency, Riga, 2017

Description of the procurement:

Purchase of printing equipment for members Electronic Procurement System.

Type of procedure: prior procurement for inclusion in E-catalogue (concluding framework agreement), the relevant bidder for particular delivery was chosen based on additional competition on the lowest price offer.

Type of contract was a framework agreement among bidders and members of Electronical Procurement System on supply of printing equipment. It was open call for framework agreement, with prior market consultations.

This was a Green Public Procurement case with some circular requirements.

Circular aspects in the procurement process:

Circular aspects were included in the technical specifications and contract clauses. Green criteria were to large extent corresponding to the EU GPP criteria for printing equipment, including criteria such as:

- 1) Double side printing (compliance with Energy Star 2.0)
- 2) Multiple images on single sheet of paper (compliance with Energy Star 2.0)
- 3) Energy efficiency for use mode (compliance with Energy Star 2.0)
- 4) User instructions for green performance management
- 5) Product longevity and warranty (repair or replacement of the product shall be covered by the warranty terms for minimum five years; genuine or equivalent spare parts shall be available for at least five years from the date of purchase)
- 6) Resource efficiency for cartridges: Design for reuse of toner and/or ink cartridges
- 7) Compliance with chemical laws (REACH, RoHS) (additional to EU GPP core criteria)

These criteria were fixed in the framework agreement with suppliers for E-catalogue.

The market participants were objecting some of the proposed criteria, but, since they were corresponding to EU GPP guidelines, the procurer decided to follow EU GPP.

Benefits and impacts of the procurement:

This was a framework agreement, and impacts were not calculated. In addition, it would be difficult to estimate how many purchasers really re-used cartridges.

References:

<http://primes-eu.net/media/22532114/no-72-latvia-cs-vraa-imagining-equipment.pdf>

Second hand computers – Gällevare, Sweden

Key circular points:

- Economically wise procurement
- Extended lifespan for computers
- Reuse of computers is realised

Procuring unit: Municipality of Gällevare, 2011

Description of the procurement:

Gällevare municipality procured second hand computers.

Circular aspects in the procurement process:

The tender competition focuses on computers of a specific model. Both companies with new and reconditioned (second hand) computers could have attended the competition. However, the most economic one was the company offering second hand computers.

Benefits and impacts of the procurement:

- A total of 3000 reconditioned computers have been bought second hand since 2011. The exact figure of money saved in Gällevare municipality has been estimated to be at least 8 million kronor.
- At least 8 ton of CO₂ have been saved, which consists only of a part of the procurement from one supplier, so the correct amount could be double. However, the procurement was not driven by circular ideas/principles but rather to get a cheaper product.

References: Interview with Anders Skoglund, head of IT, Anders.Skoglund(at)gallivare.se

<https://www.inrego.se/en-en/references/gallivare-kommun>

Reused computers – Forssa, Finland

Key circular points:

- Economically wise procurement
- Extended lifespan for computers
- Reuse of computers is realised

Procuring unit: Municipality of Forssa, 2017

Description of the procurement:

Procurement of reused laptop computers for students at school.

Circular aspects in the procurement process:

The aim of the procurement was to buy more environmentally friendly computers with competitive costs. The devices were 2 – 4 years old, business class computers with a guarantee of 3 years.

Benefits and impacts of the procurement:

The price of the procurement was lower.

The quality of the computers was excellent.

References: <https://www.energiailikka.fi/uusiotietokoneita-forssan-ylakoululaisille/>

Key remarks (to Figure 3):

- Common for most of the cases was that they paid attention to recycled material, reuse and maintenance operations which will support the extension of lifetime and closing the circles.
- Circular elements in the procurement may also increase the product and service quality, which will further lead to economically wise investments in the life cycle perspective. However, the life cycle costs or life cycle approach was highlighted only in few cases.
- The benefits of the cases indicate that the procurement can promote the creation of new jobs and business models, and thus make the market and supply chains more responsible.
- In many cases, the focus was clearly on extended product life time and service was required instead or as a part of product-service system.
- Some of the cases are more clearly examples of green or sustainable public procurement including aspects that promote closed loops and circularity. However,

these cases give the market a signal that circular aspects should be paid more attention to.

- The need for systemic shift was highlighted only in few cases.

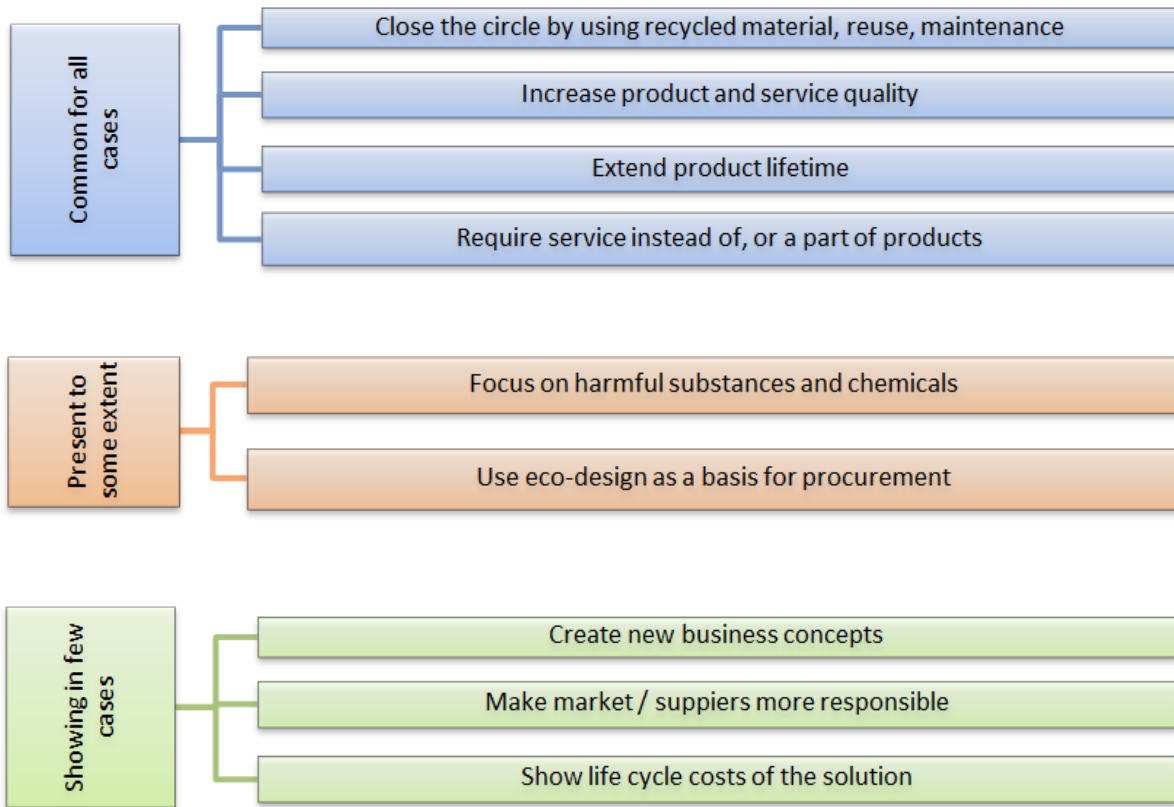


Figure 3. Aspects of circular procurement in the analysed cases
Source: own elaboration

The analysed cases represent different approaches to public procurement process, including the procurement of better quality products, use of new business and procurement concepts, procurement of innovative and new “circular” products and systems, and development of circular eco-systems. In some of the cases, the aim was rather to follow and improve SPP or GPP practices, or to conduct more innovative procurement in terms of product innovation, process innovation or system innovation, than provide circular procurement. However, the outcome of the procurement may still be circular or include circular elements. Thus, individual cases may not realise the full potential of circular benefits that they could if the systemic change would eventually take place. In some cases, as being individual pilots or experiments, the overall CO₂ emissions may exceed the benefits of increased recycling, but at the systemic level the benefits would be gained both in emissions

and material efficiency. However, these cases should be considered as good examples of steps towards the systemic shift and indicate benefits that could be reached in systemic level. It is important to highlight that in order to be fully exploited, circular economy needs a systemic shift which can be reached by expanding and multiplying these good and best practice cases.

4.3. Circular aspects in calls for tender

The aim of the analysis of calls for tender was to show how public procurers could promote CPP by adding circular criteria into calls for tender, and to give concrete examples of what kinds of criteria can be found at the moment in open calls for tender (Table 1). Altogether 57 calls for tender were analyzed from the partnering countries including the following product and service groups:

- Technical / ICT appliances / modules / equipment (14)
- Furniture (10)
- Textiles (8)
- Construction / Reconstruction / Earth construction (7)
- Sewage, waste management services / waste bins (5)
- Transport and vehicles (4)
- Lightning equipment (2)
- Medical devices and supplies (2)
- Office supplies (2)
- Food and catering (1)
- Cleaning service (1)
- Meteorology service (1)

Table 1. Analysis of calls for tender

Circular aspect	Requirement / criterion in the call for tender	Number of calls for tender stating the requirement / criterion
Circular elements related to supplier and the subject matter of the contract	System for quality control is required	20
	The subject matter of the procurement is defined as being respective to circular economy, e.g. "textiles of recyclable material"	13
	The supplier is asked for a new solution or the description of the subject matter is open for innovative solutions that stimulate the circular economy	9
	A description of circular processes is asked for / required in the tendering phase (i.e. the supplier should describe how the materials are to be circulated)	6
	The product or service is suitable for its purpose of use	2
	Delivery of products is adjustable to the current need; requirement to order in smaller quantities / lots when needed	2
	The supplier is asked for advice on circularity	1
	The system must be integrated to the larger system (e.g., public transport system as a whole)	2
	Key Performance Indicators (KPI's) on circularity will be used during the contract	1
	Social return required	1
Requirements for the extension of lifespan	Circular design / eco-design is paid attention to	2
	Life cycle costs are taken into account	1
	A long guarantee (7 – 10 years or guarantee on lifetime) is required or the length of guarantee is awarded	21
	Service agreement is asked for	15
	Guidance for correct use and user manual are requested	10
	Easy maintenance is paid attention to	11
	Requirements for multi-functionality are presented	10
Availability of spare parts is required (after the	7	

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	guarantee / for at least 10 years)	
	Requirements for multi-functionality are presented	5
	Preventive and corrective maintenance, repair and refurbishment to increase life time	6
	Requirements for durability are presented	6
	Modular design is preferred	5
	Easy disassembly is required	3
	Upgrading, modelling and/or modernizing of products is focused on	3
	A training is provided for easy maintenance	2
	Standard components and/or labelling is required.	4
	Requirements are presented for easy to clean	1
	Standard components and/or labelling is required	1
Requirements for more efficient use	A leasing concept (or product-service system) is utilized	6
	Shared use is procured or supported, i.e. car sharing, room sharing	3
	Automation solutions (e.g. automatic stop function, wireless applications etc.)	3
Requirements for improved cycling of materials	Requirements are presented for recycled packaging	6
	Requirements are presented for recyclability of the products, parts or fractions	5
	Requirements are presented for using recycled materials in the product or a certain fraction.	5
	Reuse of products, parts or materials is required	4
	Take-back system is required	4
	The European waste hierarchy (which favors material recycling over energy recovery) is supported in the procurement	4
	Requirements are presented for recyclability of packages (with regard to materials to which a recycling system exists)	4
	Requirements are presented for recyclability of packages (with regard to materials to which a recycling system exists)	2
	Traceability of products/materials is paid attention to	4
	Refurbished parts are allowed / required	2
	Procurer and supplier decide together what items will be refurbished	1
	Packaging materials need to be taken back	2

	according to regulations	
	Microscopic research into the percentage recycled fibers	2
	Certificate of an independent institute needed about the amount of recycled fibers in the product	2
	Sustainable buy-back for remanufacturing or recycling is required if refurbishment does not work	1
	Recycling service is required	1
	Requirements are presented for utilizing (nearby) secondary material flows or by-products	1
	Documentation for material recycling is required	2
	Design for disassembly is required	1
	Requirement that reuse in future will be possible, and using as much as possible existing products, components and materials	1
	Certificate of an independent institute needed about the amount of recycled fibers in the product	1
	Award criterion 10% recycled textiles content 0 points, >30% recycled content 10 points, >50% 20 points	1
	Requirement on at least 10% recycled content of cellulosic material	1
	Requirement for the use of renewable energy.	1
Requirements for clean and non-risky cycles	Requirements for the use of non-toxic chemicals are presented	15
	Requirements for material choices / safety are presented	16
	Requirements for the disposal of materials or parts are presented	3
	Material passport is required (2)	2
	Description of materials that will be used	1
	Supplier guarantees that the amount of waste is minimized, it is non-toxic and recyclable	1

4.4. Key remarks:

- There already exist many requirements and criteria that can be used to increase the sustainability and circular nature of products and services.
- Public procurers can for example require reused materials or renewable energy systems and thus promote regeneration of materials.

- Public procurers can share assets in terms of joint procurement and reuse.
- Most commonly used criterion was a requirement for a long guarantee (7 – 10 years or guarantee on lifetime), or the length of guarantee was awarded. In addition, a service agreement and guidance for correct use were often required.
- Commonly used criteria in the sample were also requirements for the use of non-toxic chemicals and safe material choice. This may be due to the fact that textiles and furniture were focused on in many cases, and these requirements were set for the parts and textile fractions. There also exist eco-label criteria and other GPP criteria for the use of chemicals in textiles and furniture that can be used as a basis for criteria setting. Most often also a documentation or verification was asked for.
- Criteria concerning recycled materials in products or packaging were also commonly used in the sample. They were stipulated most often in technical specifications.
- In addition, commonly used requirements were also criteria that ensure a prolonged product life through maintenance, repair and long guarantee whereas design for durability and remanufactured components were rarely used.
- Advanced materials and new technology or parts was possible only in few calls for tender.
- Life cycle approach was not clearly shown among the criteria. The requirement of material pass would indicate that life cycle must be paid special attention to. However, material pass or documentation of substances and chemicals was not often required.
- Prevention and recovery of waste was seen more of a requirement or duty but there were no indication that it could be considered as a competitive advantage to bidders. This could be illustrated by requiring life cycle cost calculation.

Conclusions and recommendations

Circular procurement has shown to be a challenging concept to implement as the mutually agreed common interpretation lacks. This makes the conversation and understanding difficult. However, there seems to be a common understanding that circular procurement can be consistent with the concept of sustainable procurement. Nevertheless, different definitions are a challenge also in the EU policy discussion.

Situations on promoting Circular public procurement vary in different countries around the Baltic Sea region. In the state level a lot has been done in the Netherlands. There is a strong political will to promote Circular Economy with the help of procurements. Expertise and information on sustainable procurements are on high level. In addition, there is a large collaboration between governmental organizations, private actors and NGO's in promoting CE. Also Denmark, Sweden and Finland have worked towards sustainable procurements in governmental level. Latvia and Poland have worked towards green public procurements.

In general circular public procurement is still quite a new concept and the implementation of CPP is taking its first steps. Most of the work is done under sustainable public procurement and green public procurement. However many of the countries are already preparing or have prepared a national strategy for Circular economy and the link to procurements is identified in promoting circular economy. ***It is recommended that CE strategies will have a clear link to the concept of circular public procurement including definition and objectives for CPP.***

The level of commitment to CPP, SPP or GPP may vary nationally and locally. Also the policy tools in use may be different. Denmark relies on voluntary tools and governmental commitment is estimated to be moderate whereas local and regional actors have carried out some promising initiatives. Finland has set the national targets for sustainable procurements in specific categories in governmental decisions in principle which emphasizes the importance of the efforts. The potential of CPP is estimated to be high in Russia and national experts estimate that existing legislation is not a hinder to sustainable procurements. Also in

the EU, the public procurement directives allow for the use of sustainable criteria in different phases of the procurement. ***It is recommended that countries would examine the possibilities to make sustainable and circular public procurement more binding.***

The high government level commitment does not necessarily lead to strong activities in local level. It seems that in many countries municipalities play important role in implementing CE activities as they can independently decide how intensively they tackle sustainable procurements. That leads to a situation where there exist forerunner cities and regions. Although good and best practices exist in many cities and municipalities, the price is still the most significant criteria in most of the procurements. ***It is recommended to encourage local level procurers for piloting circular products and solutions through procurement.***

Criteria for SPP or GPP have been developed in many countries. The GPP procurement criteria include also circular elements, such as recycling, reuse and material selection. Based on the analysis of calls for tender and case studies, procurers at the moment promote recycling, repair and reuse of certain parts. In the future, they could ensure that the products will be further processed after use, and that they are repairable and can be separated into subcomponents and/or materials and reused at the end of their life cycle, i.e. pay attention to eco-design. Higher expectations could be set towards procurement that aims at implementing waste hierarchy leading to completely reused products or their elements, eliminating toxic materials, and using energy from renewable sources for production. ***It is recommended that solid circular procurement criteria including eco-design, and possibilities for verification, would be developed and included in the EU GPP criteria set.***

Interest among key stakeholders is growing in all countries. Also the importance of a dialog between suppliers and procurers has been recognized. Co-operation and exchange of information has been identified to be a very important enabler and different initiatives have been carried out in countries. Projects like CIRCULARPP makes the information exchange possible and encourages actors in different countries (also other than partnering countries) to carry out CPP. In addition communication on possible support tools for CPP is essential. ***It is recommended to increase market dialogue and networking between procurers and different actors in order to develop new circular solutions and innovations on the market.***

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Appendices

APPENDIX 1. Projects and initiatives in the field of circular procurement

Project / Initiative	Focus / Research question	Report / Document
Public Procurement for a Circular Economy	Good practice and guidance	<u>European Commission, 2017</u>
Exploiting the potential of public procurement – opportunities for CE	This study analyzed public procurement opportunities to promote circular economy	<u>Alhola, K., Ryding, S-O., Salmenperä, H. & Busch, N., 2018</u>
Circular Procurement Best Practice Report / SPP region, ICLEI	What is circular procurement? Why circular procurement? Best practice examples	<u>Jones, M. et al., 2017</u>
Circular procurement in the Nordic Countries (CIPRON), NCM	Definition for circular procurement, Different types of circular procurement, Best practice cases in the Nordic countries	<u>Alhola, K. et al., 2017</u>
REBUs - Towards a Circular Economy model for Procurement	Benefits of circular procurement, Content of circular procurement, Examples of sectors suitable for circular procurement	<u>Prummel, J. & Jones, M., 2016</u>
Harnessing Procurement to Deliver Circular Economy Benefits, REBUs	Circular procurement principles and key lessons	<u>Report, PIANO 2017</u>

Summary report work package 2.1 State-of-the-art on Circular Procurement Policy in the Baltic Sea region

REBUs reports and tools	Pioneering resource efficient business models (REBMs) for a circular economy	REBUs, 2017 http://www.rebus.eu.com/resources/reports-and-tools/
10YFP / Sustainable Public Procurement and the CE	European Union Circular Economy Package 10YFP SPP Programme	Yaker, F., UNEP, 2016
Circular Procurement Guide / MVO Nederland	Intended for procurement staff and gives specific guidance to introduce circular procurement.	MVO Nederland
Using Product service systems to enhance SPP, UNEP	Intended to assist governments in evaluating the potential of product-service systems to act as a driver in achieving their sustainability goals.	UNEP Technical report, 2015
Circular Procurement, PIANO	Case studies and fact sheets	https://www.pianoo.nl/public-procurement-in-the-netherlands/sustainable-public-procurement-spp/spp-themes/circular-procurement
Circular Procurement Best Practice report, SPP regions	What is circular procurement? Why circular procurement? Best practice cases	Circular procurement best practice report, 2017
Danish EPA / Ellen McArthur Fnd.	Denmark: Public procurement as a circular economy enabler	Ellen McArthur Foundation – Case studies, 2017
INNOCAT Sustainable catering	Towards a CE model for Procurement Circular food & nutrient loop	Jones, M., 2016
Circular procurement	Pilot study on circular flooring. Circular economy guide outlines a process of five steps for preparing a circular business case.	ABM Amro
Getting started with circular procurement	Guidance to circular procurement, including useful	PIANO

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/ PIANO	tips, background details and practical examples.	
Using Product Service Systems in Circular Procurement	Training module for circular procurement provides insights and practical guidance to procurement officials, policy makers and suppliers on how adopting circular procurement principles.	<u>Prummel, J., van Geet, C. & Jones, M., 2016</u>
Results Green Deal Circular Procurement	Experiences from Green Deal Circular Procurement (45 participants of the Green Deal Circular)	<u>Starmans, E., 2017</u>
Towards a more Circular Economy: Proposing a framework linking sustainable public procurement and sustainable business models	A framework to include technical and non-technical specifications of product/service combinations that improve resource usage efficiency through recovery. Collaboration on public procurement.	<u>Witjes, S. & Lozano, R., 2016</u>

APPENDIX 2. Framework for expert interviews

Interviewee (name, position):

Interviewers (name, organization):

Place and date:

**) Please comment and specify if you gain additional information from other sources than the main interview(s). Other sources may be for example the project partners themselves, local authorities, business or industry representatives, media, or CE related national documents. You may also add a link to the policy document or similar, if available.*

A) Current public policies and future lines concerning: Circular Economy (CE), Circular Public Procurement (CPP) and/or Sustainable Public Procurement (SPP)		
Question	Answer	Comment / Other source of information*
Q1) Who are the main public bodies in charge of building CE and CPP or SPP policies?		
Q2) Is there a national action plan (or similar) regarding CPP, SPP or CE? <ul style="list-style-type: none"> • If not, why? • If yes, specify: <ul style="list-style-type: none"> • When it was updated? • Which sectors are focused? • What kinds or priorities and ambitions are set regarding CPP? 		
Q3) What are the future policy lines and steps regarding CE and CPP or SPP?		
Q4) To what extent national policy objectives have been implemented to local political level?		
B) Support in Circular Public Procurement (CPP)		
Q5) What kind of capacity building is available regarding CPP in your country? E.g. helpdesks, consultancy services, exchange of experiences, etc.		
Q6) Are there any public procurement guidelines or criteria sets that include CE measures (e.g. durability, reparability, re-use, LCA, recyclability, etc.)		
Q7) To what extent these criteria are currently used (if known)?		
Q8) Is there any financial support or arrangements (e.g. Green Deal) for CE related projects?		
C) Market maturity and conditions promoting CPP		
Q9) How alternative business models could be better utilized in enhancing CPP?		

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Q10) How well existing structures (e.g., recycling systems, aftermarkets etc.) and networks support CPP at the moment?		
Q11) Who are relevant stakeholders in developing new circular based markets, ecosystems and value chains through public procurement?		
D) Search for best practices		
Q12) Can you identify examples of public procurements or investments that could be considered as national best practices in the field of circular public procurement?		
Q13) Can you recognize relevant municipalities or regional procuring units who have carried out circular procurement cases or investments?		
Summary and conclusions in English (provided by the interviewer)		
Please summarize the interview, including the main points from all the questions, highlights of the interview and your own thoughts and conclusions about the state of art of CPP/SPP based on the interview. You may also point out possible lacks in the information or its consistency, etc.		

APPENDIX 3. Interviewees in different countries

Denmark

Bjørn Bauer, CEO of PlanMiljø ApS, consultant firm that has administrated the Secretariat for Green Public Procurement (BB)

Written comments from Anne-Mette Lysemose Bendsen, Environmental Protection Agency of Denmark (AMLB)

Sweden

Joakim Thornéus, The National Agency for Public Procurement

E-mail correspondence with Annika Löfgren, Ministry of the Environment (further info about the inquiry).

Latvia

Eva Ciekurze, Head of Public Procurement Department, Liepaja City Municipality

Rudīte Vesere, Ministry Environmental Protection and Regional Development, Director of Environmental Protection Department

Uģis Zanders, Ministry of Environmental Protection and Regional Development, Coordination Department, dealing with Green Public Procurement

Elita Kļaviņa, Oļegs Filipovičs, State Regional Development Agency, E-Procurement Department

Poland

Olga Rataj, Senior Expert, Department of Innovation, Ministry of Entrepreneurship (FORMER: Ministry of Economic Development)

Paweł Wais, Deputy Director, Marshal's Office of Podkarpackie Region, Department of Regional Development

Finland

Taina Nikula, Ministerial Adviser, Department of Material economy, Ministry of Environment

Matti Kuittinen, Senior specialist, Department of Buildings and Construction, Ministry of Environment

Pauliina Virtanen, Head of supplies, City of Jyväskylä

Netherlands

Emile Bruls, Advisor, Rijkswaterstaat

Joan Prummel, Strategic advisor, Rijkswaterstaat

Take Padding, the Dutch Public Procurement Expertise Centre, PIANOo

Russia

Jelena Shadrina, HSE University.

APPENDIX 4. A summary: key differences in terms of Green (Sustainable) PP in Europe and Russia

1. Green (Sustainable) PP in Europe

The introduction of environmental characteristics in the public procurement system has more than twenty years of history and is actively used in many countries around the world. Since 1995, seven countries in Europe - Austria, Great Britain, Germany, Denmark, the Netherlands, Sweden, Finland - have begun to actively use the principles of environmental safety in the procedures of public procurement.

In 2004, the EU Council and the European Parliament adopted two directives regulating procurement, 2004/18/EC and 2004/17/EC. Unlike the previous EU directives, they contain specific recommendations on the inclusion of environmental requirements in the contracting process. The preamble to Directive 2004/18/EC defines the contribution that customers can make to in the protection of the environment and promote rational development, without forgetting to ensure the price and quality ratio of the contract".

The legislative measures allow:

- to include environmental requirements in technical conditions (art. 23 (3) b);
- to use ecological trademarks - eco-labels (art. 23 (6));
- **to establish social and environmental conditions** for the performance of contract (art. 26);
- **to require suppliers** to provide information on the implementation of their environmental obligations (art. 27);
- **to apply the criteria** for choosing a winner, based on environmental characteristics (art. 53).

In 2008, the European Commission adopted the document COM (2008) 400 (Communication Public Procurement for a Better Environment, 2008), which aimed to develop guidelines for reducing the environmental impact in the consumption process for the public sector and using green procurement to stimulate innovations in the sphere of environmental protection in the production of goods, works and services. At the European level, the Commission set the goal that by 2010 50% of all public procurement in Europe will be carried out in accordance with the principles of environmental friendliness. In 2008, the European Commission adopted the document COM (2008) 400 (Communication Public Procurement for a Better Environment, 2008), which aimed to develop guidelines for reducing the environmental impact in the consumption process for the public sector and using green

procurement to stimulate innovations in the sphere of environmental protection in the production of goods, works and services.

As we found out the legal basis for sustainable public procurement in the European Union currently is Directive 2014/25 / EC on the purchase of utilities, energy, transport and postal services and Directive 2014/24 / EC, which regulates the rules of public procurement of goods, works and services. These Directives, as well as the 2004 Directives, provide specific guidance on the possibility of including environmental requirements and criteria in the procurement process.

Directive 2014/24 / EC states that public procurement is one of the market tools for achieving reasonable, sustainable development, ensuring the most effective use of public funds. The directives provide for the inclusion of environmental, social and labor protection requirements in procurement procedures. These requirements can also be applied as criteria in determining the winning bid.

The Directive explicitly states that the procurement rules should not prevent the introduction and application of measures necessary to protect life, public ethics, public safety, human and animal health, plant conservation and other environmental activities for sustainable development. The directives also provide for the possibility of creating an innovative partnership between the state customer and the supplier for the development and production of innovative products. The EU procurement rules provide for the support of small and medium-sized businesses, the use of eco-labels, the use of the value of the life cycle of products.

Thus, **the Directives do not simply propose, but oblige the procuring authorities to apply the requirements and conditions for sustainable procurement.** The European countries take into account the provisions of the Directives in their national acts on public procurement.

Concerning all the above mentioned it is possible to say that the European approach towards green procurement is **strategic, systematic, measurable, detailed and goal-oriented.** Unfortunately we don't see the same solid virtues in the Russian legislation.

2. PP in Russian Federation

Currently in Russia the Public Procurement system consists of two major parts (sectors): public procurements by government bodies (ensuring state and municipal needs) and public procurements by specified list of companies and organizations related to the government (for the full list see part 2. Article 1 Federal law of the Russian Federation from July 18, 2011 of No. 223-FZ) governed by two Federal Laws (44-FZ and 223-FZ respectively (attached)).

Basic principles of the 44-FZ (Article 6 44-FZ):

The contract system in the field of procurements is based on the principles of openness, transparency of information on contract system in the field of procurements, ensuring competition, customers professionalism, innovations stimulations, unity of contract system in the field of procurements, responsibility for productivity of ensuring state and municipal needs, efficiency of non-official translation implementation of procurements.

Basic principles of the 223-FZ (Article 3 223-FZ):

1. When purchasing the goods, works, services customers are guided by the following principles:
 - information openness of purchase;
 - equality, justice, absence of discrimination and unreasonable restrictions of the competition in relation to participants of purchase;
 - the target and cost-efficient expenditure of money on acquisition of the goods, works, services (with accounting in need of the life cycle cost of bought products) and sale of the measures directed on cost reduction of the customer;
 - absence of restriction of the admission to participation in purchase by establishment of not measured requirements to participants of purchase.

Table 1. Customers of the Procurements

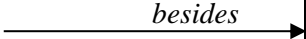

44-FZ FEDERAL LAW		223-FZ FEDERAL LAW	
STATE CUSTOMER	MUNICIPAL CUSTOMER	NON-PROFIT ORGANIZATIONS	COMMERCIAL ORGANIZATION
1. State bodies	1. Municipal bodies	1. State corporations	1. Subjects of natural monopoly
2. Rosatom (state corporation)	2. Municipal government institutions	2. State companies	2. Organizations implementing regulatory activities
3. Roskosmos (state corporation)		3. Public law companies	3. Business entities with a share of the Russian Federation/ >50%
4. State off-budget funds		4. Autonomous institutions	4. Subsidiaries of organizations whose share >50%
5. State treasury institution		5. Budget institutions when purchase is carried out through private grants, Russian subsidies or due to performance	5. Federal State Unitary Enterprises, Federal Municipal Unitary Enterprises when purchase is carried out through private grants, Russian subsidies or due to performance
OTHER CUSTOMERS			
1. Budget institutions			
			
2. Federal State Unitary Enterprises, Federal Municipal Unitary Enterprises			

Table 2. Participants of the Procurements

44-FZ FEDERAL LAW	223-FZ FEDERAL LAW
1. ANY LEGAL ENTITY, regardless <ul style="list-style-type: none"> • organizational form • property form • location • place of origin of capital with the exception of legal entities, registered in <u>offshore zones, list of the offshore zones is approved by Ministry of Finance from 03.11.2007 №108H</u>	1. ANY LEGAL ENTITY/ SEVERAL LEGAL ENTITIES AS A COLLECTIVE PARTICIPANT regardless <ul style="list-style-type: none"> • organizational form • property form • location • place of origin of capital with no exceptions
2. ANY INDIVIDUAL, including an individual entrepreneur	2. ANY INDIVIDUAL/SEVERAL INDIVIDUALS AS A COLLECTIVE PARTICIPANT, including an individual entrepreneur
SOME PRIVILEGED PARTICIPANTS	
1. Penal Institutions	1. Small Business
2. Organizations of Disabled Persons	2. Medium Business
} PROVIDED WITH UPTO 15% QUOTE	} SHALL COVERAT LEAST 18% OF ANNUAL STATE PURCHASE VOLUME
3. Small Businesses while procurement is organizing the procurement, a restriction can be established = only the small business	
} SHALL COVERAT LEAST 15% OF ANNUAL STATE PURCHASE VOLUME	

Diagram 1. Methods of procurement under federal laws

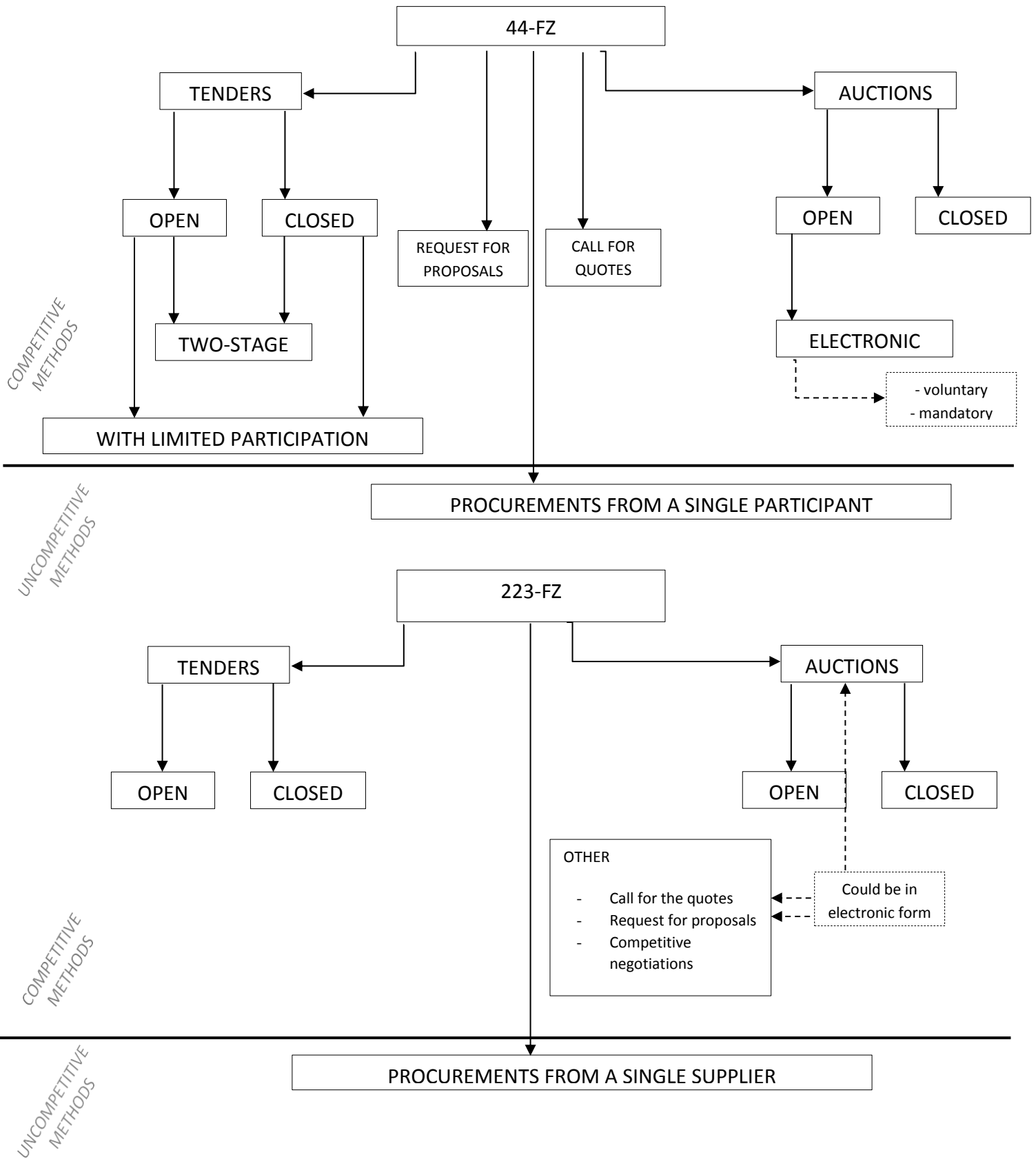


Figure 1. The Allocation of procurements to identify the supplier under 44-FZ in 2016 (by data from zalupki.gov.ru)

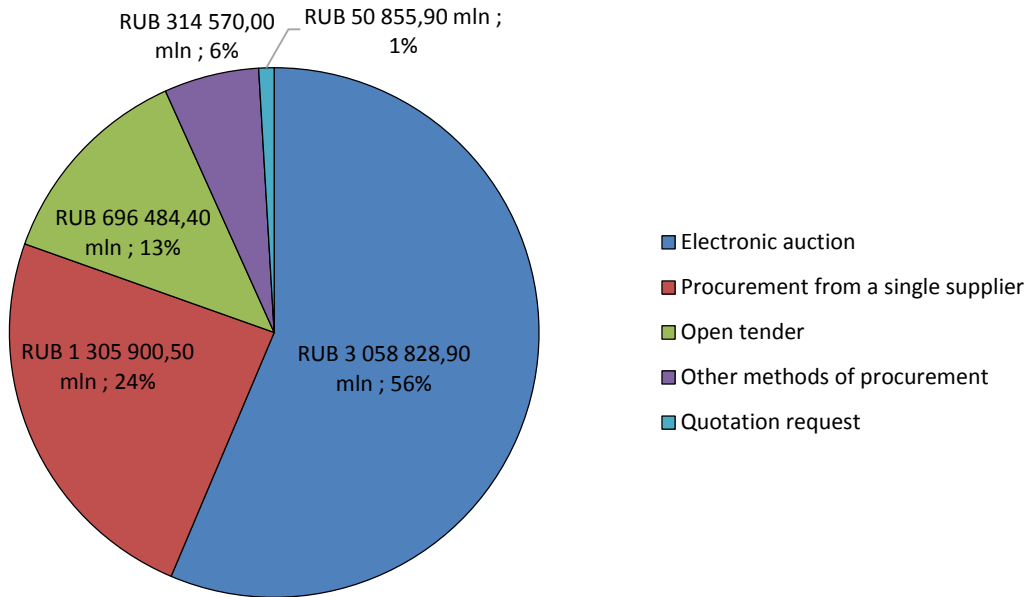
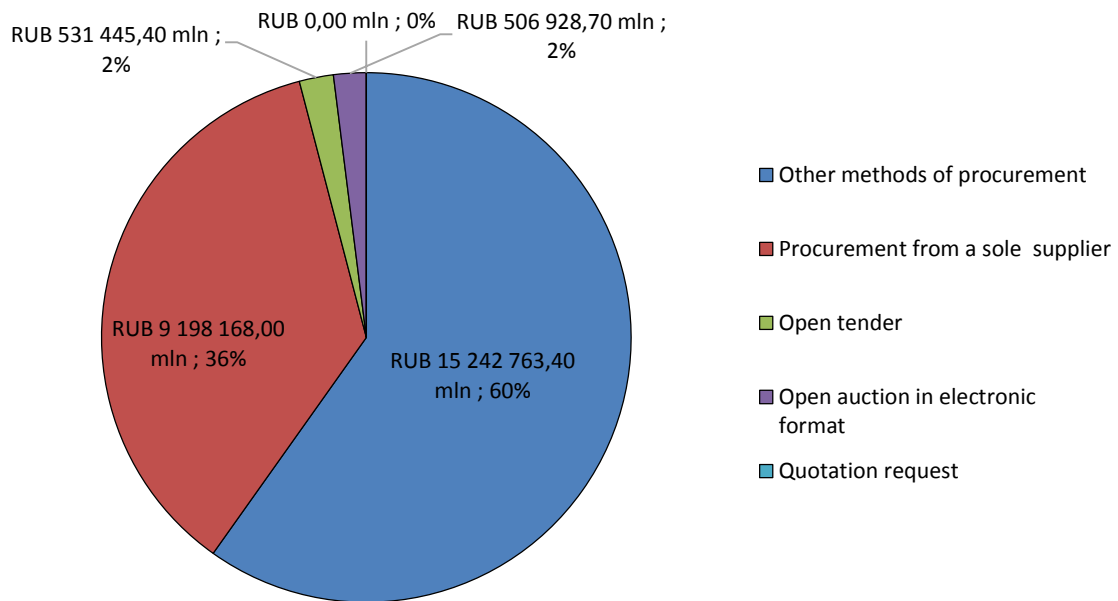
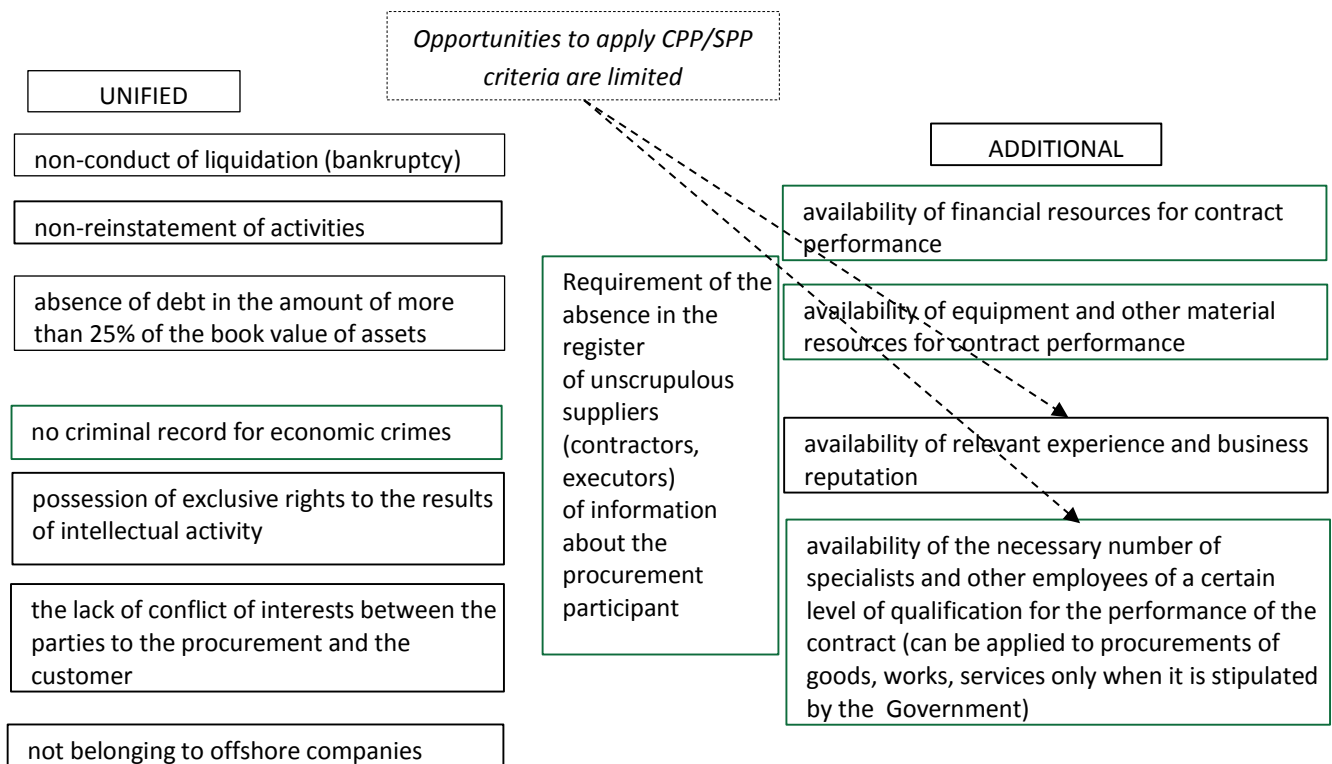


Figure 2. The Allocation of procurements to identify the supplier under 223-FZ in 2016 (by data from zalupki.gov.ru)



Concerning the 44-FZ: in the majority of public procurements by government bodies regulated by 44-FZ the determinative criterion is the price. In the logic of 44-FZ according to the subject of the procurement and estimated maximum price of the procurement the government body must choose the correspondent methods of determination of suppliers (contractors, performers) (Article 24 44-FZ). According to the law each method has the list of criteria that can be chosen in order to evaluate applications of the procurement participants (Article 32 44-FZ).

Diagram 2. Requirements to Participants of Procurement



In the majority of cases there can be only one criterion chosen – the price. However, with certain types of subjects of procurement and methods of procurement there can be also other criteria used, such as:

- Expenses on operation and repair of goods, use of works results;
- Qualitative, functional and ecological characteristics of object of procurement;
- Qualification of the procurement participants, including financial resources, equipment and other material resources on the property right or other legal grounds, work experience connected with subject of the contract, business reputation, specialists and other workers with certain skill level.

The order of evaluation of applications, final proposals of the procurement participants, including limit importance values of each criterion is established by the Government of the

Russian Federation (current limits are established according to the Decree of the Government of the Russian Federation No. 1085 of November 28, 2013 (Edited on November 14, 2016) "On Approval of the Rules for Evaluation of Applications, Final Proposals of Participants for Procurement of Goods, Works and Services for Provision of State and Municipal Needs").

In short, in the majority of cases when the government bodies are to organize the public procurement (especially if the subjects of procurement are goods/commodities) the only criterion they are allowed to use is the price. However in certain cases of more complex subjects of procurements (such as services (including construction) and research work) and some other specific cases other criteria (including the 'green' evaluation criteria for applications) can be used.

Concerning the 223-FZ: the main 'message' of the 223-FZ is that each organization subject to that law must establish its own legal acts regulating rules of purchase (Regulations on purchase) that must comply with by the Constitution of the Russian Federation, the Civil code of the Russian Federation, this Federal Law, other Federal Laws and other regulatory legal acts of the Russian Federation.

In brief, while the 44-FZ regulates all the steps and details of the public procurement process (including the possible methods, criteria, procedures and documents required), the 223-FZ provides only the general framework (principles, basic provisions and basic requirements) while all the other details (regulations, procedures, etc.) must be decided upon by the organization itself in full compliance with the Legislation of the Russian Federation. In terms of research on Green (sustainable) PP in Russia in the sector of organizations related to the government it means that each organization should be examined separately. In terms of promoting the Green (sustainable) PP in Russia it means that the sector legal entities, subject to 223-FZ, is much more flexible in potential possibilities to use the principles of green procurements than the sector of government bodies, subject to 44-FZ.

3. Green (Sustainable) PP in Russian Federation

Since public procurement is a powerful investment tool for the development of the country and possess significant purchasing power, in Russia many scientists and experts understand that it is necessary to take into account environmental requirements when placing orders.

In 1996 along with other 140 countries, Russia adopted the concept of sustainable development (Presidential Decree No. 440). However it is still does not exist nor a holistic national strategy towards sustainability neither special directives regulating green, sustainable or circular public procurement. But it also should be mentioned that the white

paper 'Fundamentals of the Environmental Policy of the Russian Federation for the period until 2030 approved in April 2012 provide "...the advantages (under otherwise equal conditions) when procuring goods, performance of works, rendering of services for state and municipal needs for those goods, works, services that meet the environmental-friendly requirements".

With the adoption of the Federal Law of the Russian Federation No. 44 'About the contract system in the sphere of procurement of goods, works, services to ensure state and municipal needs' Russia has really closed the gap to developed countries in the regulation of public procurement. Despite that one of the mandatory requirements in this law **is still assumed the price of goods and services** among other criteria it is recommended to take into account the environmental characteristics of the object of procurement (art.32, part 1) and life-cycle criteria (art. 32, part 3). But, unfortunately, Federal Law of the Russian Federation No. 223 'About purchases of the goods, works, services by separate types of legal entities' which is widely used by both public and private corporations omits any kind of such specific requirements.

As literature points out, typical environmental requirements and criteria which are often included in different parts of the procurement documentation could be the following:

- **technical requirements and product specifications (i.e., requirements for the subject of procurement):** Most often, these specific requirements are contained in existing GOSTs (is an acronym for 'gosudarstvenny standart' which means state standard), international and other Russian standards. Additionally environmental markings could be used to determine compliance with these requirements. In Russia the introduction of environmental requirements for products is not prohibited by law. **Neither the 44-FZ nor the 223-FZ contain any restrictions on this matter.** However **these laws do not oblige or motivate the procuring entities to include environmental requirements in the product specification.** The independent analysis of purchases in Russia had shown that in most cases, customers in technical specifications refer to existing GOSTs, SNIps (acronym for 'stroitelnye normy I pravila' which means construction rules and regulations), standards. In very rare cases procurers establish additional environmental requirements that are not provided by GOSTs.
- **requirements for the qualification of suppliers:** the installation of this kind of requirements is not possible for procurement organizations working under 44-FZ since the law contains an exhaustive list of requirements for suppliers. However procurers who follows norms of 223-FZ are not limited by the law in the application

of these requirements. However the analysis of tendering procedures emphasizes only a few cases when the customer under 223-FZ applied some sort of environmental requirements to the supplier.

- **‘green’ evaluation criteria for applications:** Russian legislation on public procurement allows the use of an environmental criterion in the evaluation of applications (Article 32 of the federal law 44-FZ). Moreover, the Rules for Evaluation of Applications of Purchase Participants (Decree of the Government of the Russian Federation No. 1085 of 28.11.2013) stipulate for compliance with environmental standards as a given ecological criterion. 223-FZ does not contain any restrictions for the application of the environmental criterion in evaluating the applications of suppliers. There is no evidence that any procurer introduce this kind of criteria when evaluating bids.
- **additional specific terms of the contract:** the introduction of such requirements in the terms of the contract does not contradict Russian law and can be applied in practice. Although not very often these requirements could be found in the procurement procedures in Russia.

Concerning regional and municipal level we cannot indicate any strategic impulse from federal to local authorities in the process of making public procurement more sustainable. Federal legislation is also obligatory and quite the same for any district or municipality. So, if local authorities are interested to follow good practices they can intermittently or even systematically, officially or informally introduce some elements of SPP policies.

The only example of that that is known today is the city of Moscow. In 2010 the Moscow City Government Decree No. 3326PP "About environmental requirements for the quality and technical characteristics of products purchased under the state order of the city of Moscow and directions for improving environmental certification and audit systems" was introduced. The document contains environmental criteria for a number of groups of goods and services purchased by Moscow institutions.

Most often environmental requirements in Moscow are applied when purchasing catering services and food. This may be due to the availability of knowledge of environmental requirements and skills of their application to procuring entities, as well as through legal regulation of requirements to this product group.

From the list of environmental requirements stipulated by Moscow Government Decree the purchasing organizations apply a much smaller set of requirements and do so much less frequently (requirements mostly applied when purchasing computers and office equipment). One of the reasons for this fact may be the ignorance of the requirements of this decree by the procuring entities. In addition, the text of the Decree in comparison with

environmental requirements and criteria adopted in the European countries is substantially narrower. This regulation also does not contain requirements for such an important group of products as food, while procuring entities apply environmental requirements when purchasing food often.

To conclude, green public procurement is an innovative concept for Russia, implying rational, optimizing spending of public funds, using market opportunities to significantly increase the environmental and social benefits at the local and global levels. The introduction of the concept of environmentally friendly public procurement into the Federal contract system of Russia should become an instrument of state policy for the economic development of the country without harm to the environment and quality of life of the population.

APPENDIX 5. Framework for searching for and analysing CPP best practices (based on NBEN and CIPRON)

How to recognize circular procurement cases?

The following aspects (1-5) or some of them can be found in a potential circular procurement case.

1. The procurement process in general is focused on circularity; i.e. circularity is mentioned in the description or objectives of the procurement

For example:

- The subject matter is defined as being *respective to circular economy* (e.g. procurement of textiles of recycled materials).
- The supplier is asked for a new solution, or the description of the subject matter is “open” to *innovative solutions* that stimulate the circular economy and related business.
- *A description of circular processes* are asked for/required in the tendering phase, e.g. the supplier should describe how the materials are to be circulated, what the end product is and what are its markets, etc.

2. Extended product life time, and more effective use of products, services and materials are focused on in the procurement

For example:

- *A long guarantee (or guarantee on lifetime)* is required or the length of guarantee is awarded.
- Guidance for *correct use* and *user manual* are requested.
- *Easy maintenance* is paid attention to.
- Requirements for *durability* are presented.
- Requirements for *multi-functionality* are presented.
- *Modular design* is preferred.
- *Availability of spare parts* is required (after the guarantee).
- *Easy disassembly* is required.
- *Service agreement* is asked for.
- *Upgrading, modelling and/or modernizing* of products is focused on.
- *Standard components and/or labelling* is required.
- *Reuse of products, parts or materials* is required.
- *Refurbished parts* are allowed / required.
- *Take-back system* is required.
- *Traceability* of products/materials is paid attention to.
- *Leasing concept* is required.
- *Shared use* is procured or supported, i.e. car sharing.
- Production is based on take-back materials/components.

3. Cycling of biological or technical materials are focused on in the procurement process

For example:

- Requirements are presented for using *recycled materials* in the product or a certain fraction.

- Requirements are presented for *recycled packaging*.
- Requirements are presented for utilising (nearby) *secondary material flows or by-products*.
- Requirements are presented for *recyclability of the products, parts or fractions*.
- Requirements are presented for *recyclability of packages* (with regard to materials to which a recycling system exists).
- *Documentation for material recycling* is required.
- *The European waste hierarchy* (which favours material recycling over energy recovery) is supported in the procurement.

4. Clean and non-risky cycles are paid attention to in the procurement process

For example:

- Requirements for the *use of non-toxic chemicals* are presented.
- Requirements for the *disposal of materials* or parts are presented.
- Requirements for *material choices* are presented.

5. Certain tools are used in the procurement process to address circular elements

For example:

- *Life cycle costing (LCC)* is used as a basis for cost calculation.
- *Eco-label criteria or Green Public Procurement (GPP)* criteria that support recycling, reuse, recyclability, non-toxicity, etc. are used.
- *Eco-design* is paid attention to.

APPENDIX 6. Framework for selecting and analysing best practice cases

Main topics (points A – C) will be documented for all 20 cases. Points A- D will be documented for the selected 5 cases.

A. Description of the case

- Procuring unit
- Time and place
- Subject matter
- Description:
 - What made the procurement circular?
 - Why could the procurement be considered as CPP best practice?

B. Circular aspects in the procurement process

- How were circular aspects* and related criteria taken into account in the procurement process in different phases: 1) Planning phase, 2) Tendering phase, 3) Contract period and terms?
- What kind of market dialogue was included in the planning process regarding CE?
- Were certain tools (e.g., LCC, eco-labels, eco-design) used in the procurement process and how did they help to address circular elements and benefits?
- What was the procurement procedure and how did it support circularity? (for example: negotiations, open procedure etc.)

C. Impacts on circular economy, innovations and market response

- What were the economic impacts of the procurement (e.g. cost savings)
- What were the environmental impacts of the procurement (e.g. CO₂ emissions reduced)
- What were the impacts on business in terms of alternative CE business models?
- What were the impacts on innovations, i.e., was the product/solution already available on the market, or was it developed due to the procurement process according to the procurer's requirements and specified needs?

D. Success factors and lessons learnt

- What were the main lessons learnt from the procurement case in terms of linking circular aspects into the procurement?
- Does the procuring unit have a procurement strategy? If yes, is CPP and/or SPP taken into account in the strategy?
- How did the organizational culture and conditions support or hinder the CPP process?
- What was the role of co-operation in the procurement process?
- What was the role of capacity building, such as experience exchange with other municipalities and other experts, in the procurement process?
- What was the role of other stakeholders and/or networks?

