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The Market's Maturity for Public Procurement of Circular Furniture: A Study from Latvia

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Jana Simanovska
The Latvian Environmental Investment Fund

Inese Pelsa
University of Latvia, The Faculty of Business, Management and Economics

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Abstract

Public procurement plays an important role in the market by making up 14% of the Gross Domestic Product in the European Union, therefore it is seen as an important instrument to promote such products and services that better meet society's demands, for example, sustainability. Starting from 2015, circularity is an important aspect of sustainability. Furniture is among the product groups with a significant impact on the material footprint, therefore approaches to increase material efficiency and circularity are of high value. With this research, the authors investigate the market's maturity, i.e. the readiness of suppliers to offer circular furniture and services, as well as the readiness of municipalities to uptake it. 20 companies and 27 municipalities took part in the survey. Results show that the surveyed companies currently are more ready to offer more circular products and services than municipalities require in the procurement tenders. Most surveyed municipalities are maintaining and repairing the furniture by themselves that is a circular approach but without outsourcing. The market consultation before the tendering could help to understand the market abilities better and lead to more circular purchasing contracts. This is an important task considering the importance of public procurement in promoting a circular economy.

KEYWORDS: circular economy, circular procurement, furniture, green public procurement, market maturity, sustainable procurement.

Introduction

The circular economy (CE) is an innovative approach to eliminate emerging environmental problems caused by increasing resource depletion, accumulation of non-recycled waste, growing environmental pollution and climate change. The concept of the CE is an increasingly attractive approach to tackling current sustainability challenges and facilitating a shift away from the linear "take-make-use-dispose" model of production and consumption (Klein, Ramos et al., 2020). The development of this new paradigm started nearly half a century ago in the minds of innovative designers, promoted by thinktanks such as the Ellen MacArthur Foundation (Webster, MacArthur, 2016) or IGES – the Institute for Global Environmental Strategies (Ministry of Environment, Japan, 2019) and injected in policies and strategies of different countries in the world. Thus, CE is on the rise in the European Union, Japan, Canada, the USA, China, etc. The concept of CE is increasingly receiving attention from companies, academics, and policy-makers as a practical approach to address the current sustainability challenges and transform the linear "take-make-use-dispose" model of production and consumption into a circular model of resource manage-

ment (Esposito et al., 2018). There are many definitions of CE, and the authors would like to forward the definition by Geissdoerfer and co-authors that is based on a thorough literature review, defining CE "*as a regenerative system in which resource input and waste, emission, and energy leakage are minimised by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling* (Geissdoerfer et al., 2017). CE is seen as one of the approaches to reach Sustainable Development Goals defined by the United Nations. The European Union launched its first CE action plan in 2015 (European Commission, 2015), and further on embanked CE as one of the basic stones in the new strategy document for reaching a more sustainable economy i.e. "The Green Deal" (European Commission, 2019). "In a CE, carbon dioxide emissions would halve by 2030 and resource consumption by cars, construction materials, real estate land, synthetic fertilizer, pesticides, water use, fuels and non-renewable electricity could drop by 32% by 2030 and 53% by 2050, compared with today (Accenture, 2016). Thus, CE is high on the political agenda and now there is a need for the actions to implement it in our life. It shall be noted that the EC Directive on waste (European Parliament, 2008) already in 2008 introduced the waste management hierarchy corresponding to a circularity approach setting the following priority order for waste management: (a) prevention, (b) preparing for re-use, (c) recycling, (d) other recovery i.e. energy recovery and (e) disposal. A review of existing and proposed policies for advancing CE identified three policy areas that could potentially have a high impact on CE: 1) reuse, repair, and remanufacturing policies; 2) green public procurement and innovation procurement, and 3) policies for improving secondary materials markets (Milios, 2018).

Public procurement is a process where authorities purchase products and services from entrepreneurs to fulfil their functions, and the volume of public procurement in the EU makes up 14% of European Gross Domestic product and thus can substantially influence markets (European Commission, 2017). The basic principle of public procurement is the best purchase for value, but not only in monetary terms, but also in more general needs of society. There is no doubt among EU and national policymakers that the financial volume of the public procurement can help to reach strategic policy goals such as promoting an innovative and sustainable economy (European Commission, 2017). Integrating '*circular principles*' into procurement practices can help public sector buyers take a more holistic approach to sustainability while also achieving potential savings (European Commission, 2017). With growing interest in sustainable development, this issue is also being addressed by research and guidance of supply chain management (Craig et al., 2008), and the use of principles of sustainable supply chain management in the public procurement process (Preuss, 2009). Currently, CE is gradually becoming more prominent in EU and national policies, and public procurement is seen as one of the most promising policy interventions to improve resource efficiency throughout the economy pushing the market to search for innovative, resource-efficient solutions (Öhgren et al., 2019). Thus, public procurement activities can drive sustainable development by creating demand-side pressure in markets (Testa et al., 2012). Public procurement promoting the transition towards the circular economy is called circular procurement. It can be seen as a specific case of the green public procurement promoting products and services with a reduced material footprint or better recycling options. This aim is fulfilled by including circular requirements in the selection criteria of bidders, technical specifications of the product or service or contract clauses for the procurement contracts. There are two types of tendering methods allowed by the law: the lowest price or most economically advantageous tender (European Commission, 2014) with the help of a weighing system applying award criteria, that in their nature correspond to the three types of criteria mentioned above. EU citizens

support the strategic use of public procurement to achieve sustainability objectives (Keulmans et al., 2017). Nevertheless, there are many obstacles for such strategic procurement, and one of them is also the readiness of the market to deliver the requested goods and services (Grandia, Meehan, 2017) i.e. the so-called market maturity.

Furniture is among the product groups with a significant material footprint – in 2011, furniture was in 8th place among products groups with the highest material footprint (Giljum et al., 2016) therefore approaches to reduce the material footprint and increase circularity in this sector are of high value regarding circularity. Office furniture can be seen as one of the most attractive and interesting product groups from the perspective of circular procurement, as it is durable, technologically stable, and there is a high potential for reuse and reconditioning of used furniture (Öhgren et al., 2019). Over one million pieces of office furniture are discarded each year in Europe (Parikka-Alhola, 2008), and if some of these are reconditioned and re-used, it would bring significant environmental gains and monetary savings for the procuring agencies since reconditioned furniture is sold at approximately 50–80% of the price level of new furniture (Gutowski et al., 2011).

The circular economy requires fundamental changes in societal, industrial and consumption patterns (Böhringer, Rutherford, 2015). Manufacturing companies have a driving role in CE implementation since they are the designers of products and services (Pieroni et al., 2021). To achieve ambitious targets, companies will need to innovate their business models significantly, improving the consumption stage instead of focusing only on production and end-of-life strategies, i.e. recycling (Pieroni et al., 2021). Therefore, besides understanding the public demand for sustainable procurements, greater insight is needed to see how to combine buyers' motivations to save costs, sellers' motivations to increase returns, and the sustainability requirements arising from policies and public demand (Rainville, 2021). Consultation with external groups, including potential suppliers, other government agencies, and experts helps to supplement internal knowledge and improve procurement outcomes (Rolfstam, 2012).

Thus, both – the readiness of the procurers to seek circular products and services and the readiness of the market to deliver goods and services complying with these expectations are important research questions to understand the development of circular public procurement and could help the development of the national policies. With this research, the authors wanted to broaden the knowledge on the market maturity in Latvia for circular services and products i.e., the readiness of suppliers to offer circular furniture and services, as well as the readiness of municipalities to uptake it.

Methods

As a method for the research, the authors performed an online survey asking furniture suppliers and municipalities to fill an online questionnaire. Municipalities were asked about their size, procurement practices, yearly volume, and circular criteria for the procurement of furniture. Enterprises were asked about their size, markets, and circular approaches in furniture production, supply, and service. The questions were formulated so that answers of the producers and procurers were compatible for further analysis.

The circular options the authors developed based on the EU Waste hierarchy, sorting the existing approaches from literature and advice of the project team of the Circular PP project[1], as well as EU and Latvian Green Public Guidelines for furniture, see the Table 1 compiled by the authors.

The questionnaire contained questions about the demographic characterisation of companies and municipalities, circular approaches concerning production (and purchase) of furniture, application of new business models and circular approaches at the end-of-life cycle of the furniture.

The questioning was performed in Spring 2020, approaching companies and municipalities via Circular PP project contacts, as well as with the help of the *Latvian Chamber of Commerce* and Industry (LCCI), and the Association of Latvian Municipalities.

[1] Interreg Baltic Sea Region Program enabling project called "Using innovation procurement and capacity building to promote Circular Economy" (Circular PP)

Table 1
Circular options for furniture sorted according to the EU waste management hierarchy

Hierarchy of circularity	Priority *	Potential actions	Potential for new business models
Waste prevention	1	Prolongation of the life span of the furniture Intensification of the use (more users or multifunctionality) Design for repair and maintenance Reduction of material used to achieve the functionality needed Restrictions to toxic substances	Maintenance services of furniture Leasing or rent, or sharing of furniture Product – service system
Reuse	2	Reuse of existing furniture Reuse of product parts: renovation Design for reuse (easy adjusting)	Collection of used furniture, reselling or renting
Recycling	3	Choice of recyclable materials Restriction for toxic substances Use of recycled material	Collection of outdated furniture, delivering to furniture producers Producing new furniture, using recycled materials Renovation and refurbishment of the client's furniture
Energy or material generation	4	Collection of materials for combustion Collection of materials for material generation	Use of regenerated material in the design of new furniture
Landfilling	5		

** From 1 (highest) to 5 (lowest)*

Results

27 municipalities and 20 enterprises participated in the questionnaire. In Latvia, in 2020 there were 119 municipalities (the survey covers 23% of Latvian municipalities), and 837 furniture producing enterprises (the survey covers 2,4 % of furniture companies).

Most surveyed municipalities (63%) spend from 1–10 thousand euro per year on the procurement of furniture for the needs of the municipality. For subordinated organisations, such an amount is spent by 54% of municipalities. Only 26% spend from 10–50 thousand euro for the needs of the municipality. For the needs of subordinated organisations, 20% of municipalities spend 10–50 thousand euros. The majority of the municipalities (63%) apply a partly centralized approach in procurement: the purchaser is the municipality, but each institution (the recipient of the furniture) sets its requirements. 18% of municipalities allow their subordinated institutions to procure separately and only 11% apply a centralised approach.

Enterprises that participated in the questionnaire mostly represented micro and small size enterprises (56% employed less than 10 persons, 22 % employed from 10 till 49 persons). The yearly turnover for 65% of the participating companies was below 2 million euro, for 30% of the companies from 2–10 million. The most important markets were Latvia (35%), the Baltic States (24%), Scandinavia (17%), and other European countries (20%). Most of the participating companies identified themselves as furniture producers (48%), 18% as furniture refurbishers, and 6% as providing repair services. 9% identified themselves as furniture suppliers.

Comparing the answers of the municipalities and furniture producers and suppliers, one can see, that the companies are much more open toward the circular approach than the municipalities. However, according to the results of the questionnaire, the majority of municipalities (63%) are maintaining and repairing the furniture by themselves without outsourcing. Only a small part of municipalities has requested circular approaches, but did not receive a reply from the market, see Figure 1.

Figure 1

Application of circular criteria in furniture procurement by municipalities

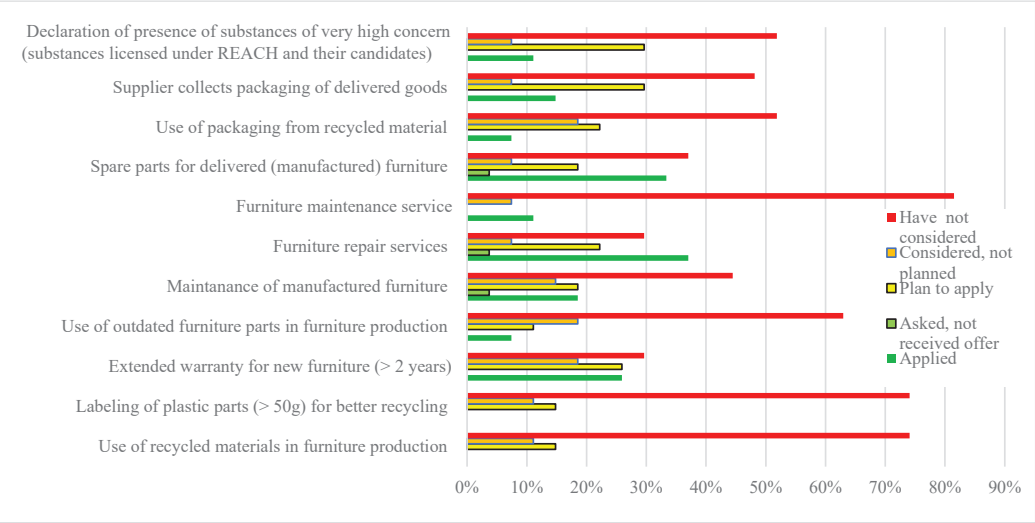
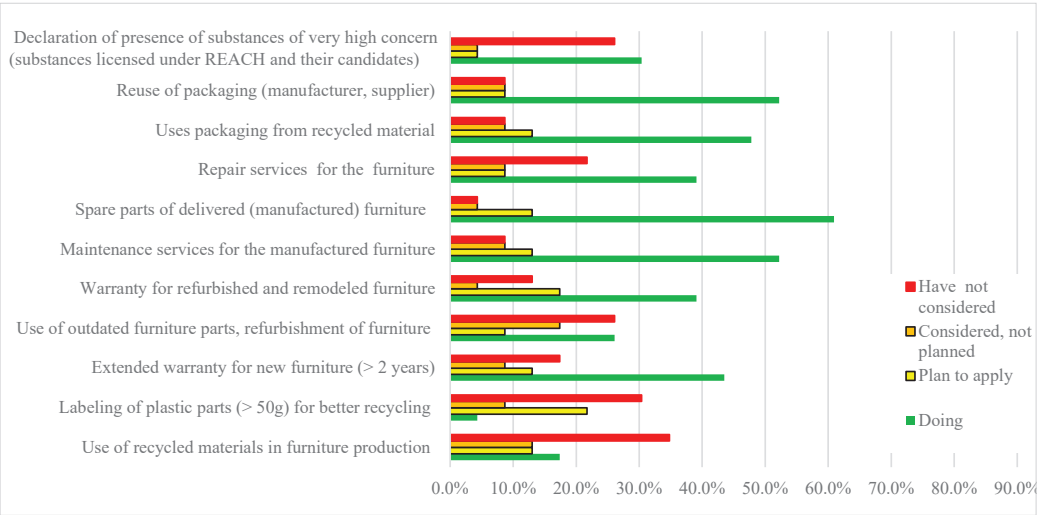


Figure 2

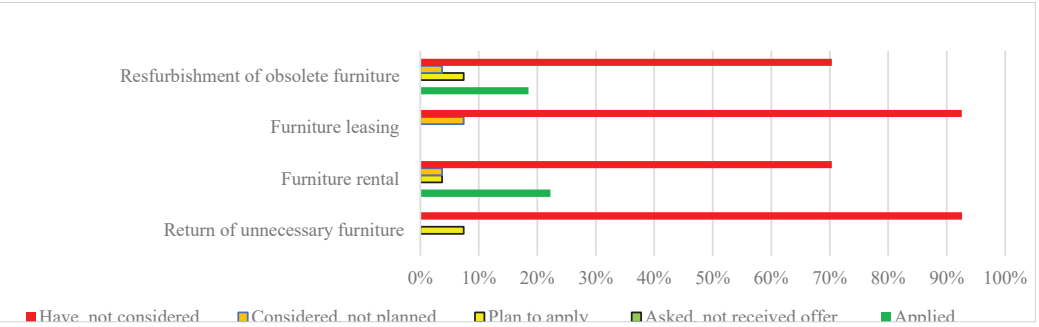
Application of the principles of circular economy in the production, sale, and maintenance of furniture by companies



Compared to the municipalities, companies are more open for the provision of circular products and circular services. For example, more than 50% of companies are reusing packaging, but only 15% of the municipalities have requested such a service from the companies. The majority of companies offer spare parts, but only one-third of municipalities request this. None of the municipalities have requested to use recycled materials in furniture production although such requirements could be one of the drivers for the development of the recycled materials market.

Figure 3

Application of the principles of a circular economy in procuring new services in the furniture procurement by municipalities.



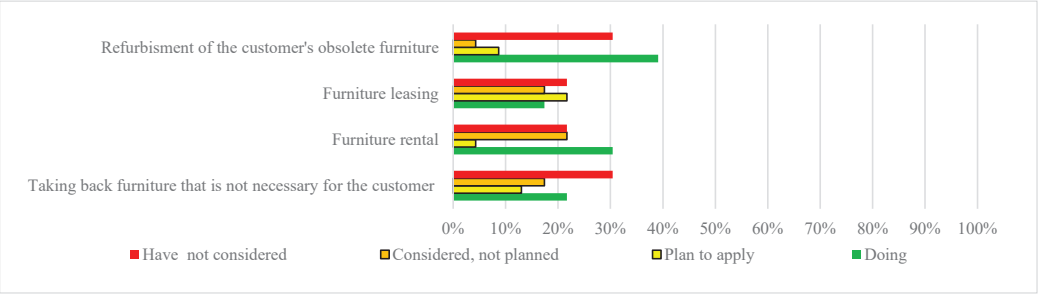


Figure 4

Application of the principles of a circular economy by the offering of new services by companies.

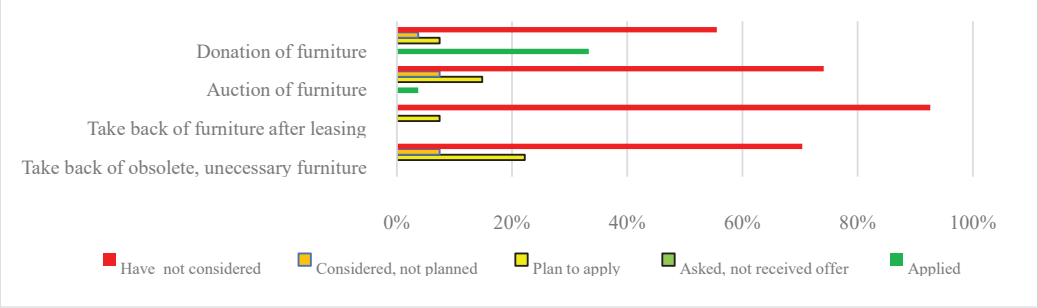


Figure 5

Application of the principles of a circular economy in procuring new services at the end-of-life of the product.

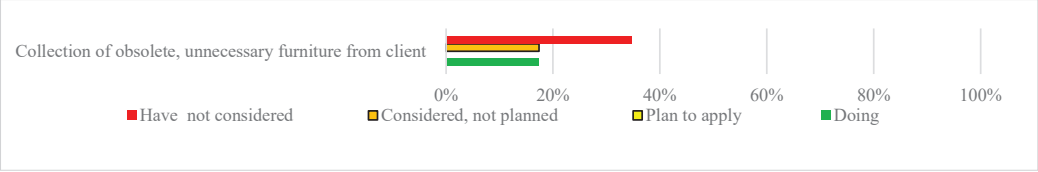


Figure 6

Application of the principles of a circular economy by offering new services by companies at the end-of-life of the product.

Comparing the readiness for the new services that can help to prolong working life and intensify the use of furniture, also here companies are more ready to offer new services – refurbishment, leasing, rental and taking back unnecessary furniture.

Also concerning the end of the life of the products, the majority of municipalities have not considered circular options yet.

Some circular practices, however, exist: a quarter of the municipalities have donated outdated furniture (assumingly to other municipal institutions) and sometimes perform auctions, but there is a willingness to try out more options.

Discussion

Although the number of companies is too small to create a representative picture with this research, one can see that several companies are ready to offer more circular services than municipalities require yet: it might be related to the fact, that companies also serve private persons and other businesses which might be quicker to use new approaches if they are economically beneficial. Most of the companies that participated are micro and small size companies which might be more ready to offer new services to get market access. However, furniture production is an important business branch in Latvia- Latvian furniture manufacturers are the 45th largest furniture exporters in the world, exporting 419 million USD worth of furniture in 2018 (United Nations Comtrade information on exporting countries by NACE code 94, 2021).

These findings show how important market consultations are before the tenders to see what the market can offer. However, the authors think that money that municipalities spend on furniture is too small to really impact the market and also to make strategic procurements. The current practice that municipalities have decentralised or partly decentralised procurement, allowing the

development of tender specifications by the subordinated institution might be a barrier for strategic procurement. Such approaches as joint procurements, where several municipalities participate and thus enlarge financial volume and framework contracts for a longer period might be solutions for this problem. The ongoing administrative reform that will unite a part of municipalities might have a good impact on the procurement practices in municipalities by increasing the volumes of single procurements. The findings are not giving an answer why the municipalities are more hesitant for circular approaches than enterprises.

These results are worth contemplating in light of the procurement policy in Latvia where the Ministry of Finance is in charge of the development of the procurement policy, but the Ministry of Environmental Protection and Regional Development is responsible for the implementation, monitoring, and evaluation of green public procurement (GPP) (Pelsa, 2019). Directive 2014/24/EU and Directive 2014/25/EU were transferred to Latvian legislation by the Public Procurement Law and Public Services Provider Procurement Law both coming into force in 2017. The same year, the Cabinet of Ministers approved Regulation No. 353, determining the application of GPP: implementation, supervision, evaluation, as well as control. These Regulations set seven groups of goods and services where the application of GPP criteria provided in regulation is mandatory: office paper, printing devices, computer hardware and infrastructure of information and communication technologies, food and catering services, cleaning products and services, internal lighting, street lighting, and traffic lights. The regulation also provides GPP criteria for voluntary groups of goods and services, including furniture. The voluntary criteria for furniture also include circular options such as a longer warranty period (at least 3 years), the availability of spare parts or components having an equivalent function for at least three years, presence of toxic substances (substances licensed under REACH and their candidates) etc.

There are positive trends in the application of the GPP in Latvia. According to information from the Procurement Monitoring Bureau of Latvia, in 2019 the share of self-reported green public tenders by procurers accounted for 17.3% of all procurements in financial terms performed under the Public Procurement Law or 515 million euro. In terms of the number of purchases, it made up 13.2% or 1,500 purchases. However, out of 205 furniture purchases made in 2019, only 14 were self-reported made in accordance with GPP requirements, respectively 6.8% or in financial expression it consists of 545 thousand euro or 6.4% from all furniture tenders (8.5 million euro). This corresponds to the results of the survey, where only a minority of municipalities have included circular criteria in their procurements.

In Latvia, there are one-level municipalities – 110 counties and 9 republic cities (Riga, Jurmala, Liepaja, Ventspils, Daugavpils, Rezekne, Jekabpils, Valmiera, and Jelgava). Population per municipality ranges from 1,300 inhabitants to more than 500,000. Given the large differences in size, it is reasonable to assume that at least some smaller municipalities might lack sufficient resources and expertise on environmental topics, as well as, on purchasing (legislation). The better understanding of the barriers for green, sustainable, circular procurements could help for policy development in this field and could be a task for further research.

Last year (2020), the Latvian government adopted the Action Plan for the Transition to a Circular Economy 2020–2027 (circular economy plan). The plan requires to improve the market for secondary raw materials, procure reusable and recycled goods through green public procurement and the development of cooperation with neighbouring countries. The Circular economy plan refers to low productivity in Latvia compared to the EU average (Labour productivity per person employed and hour worked , 2021), an important indicator of the circular economy. Although businesses are interested in reducing their production – Latvian SMEs are in the top ten at the European Union level in terms of implementing resource efficiency measures, the share of green

products and green services in the activity of SMEs is low (SBA Fact Sheet Latvia, 2017). Consequently, there is a large need to promote circularity and sustainability in the Latvian business sector and public procurement could be one of the instruments. The knowledge on behaviour of the municipalities and barriers towards strategic, circular and sustainable public procurements could help in development of future policies.

Conclusions

20 companies and 27 municipalities took part in the survey about their readiness to offer and uptake circular furniture and services. Although the number of participants among companies cannot represent the market, it is sufficient to understand about availability of circular furniture offers on the Latvian market. Results show that surveyed furniture enterprises currently are more mature to offer circular products and services than municipalities currently require. But most surveyed municipalities (63%) are maintaining and repairing their furniture by themselves that is an important circular approach but without outsourcing. The market consultation before the tendering could help to understand the market abilities better and lead to more circular purchasing contracts. This is an important task considering the importance of public procurement in promoting a circular economy.

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About the authors

SIMANOVSKA JANA

Dr.sc.ing.
The Latvan Environmental Investment Fund

Address
The Latvian Environmental Investment Fund
Eksporta Street 5, Riga, Latvia
Vidzeme University of Applied Sciences,
Cesu Street 4, Valmiera, Latvia,
Jana.Simanovska@va.lv

PELSA INESE

Mg. oec.
University of Latvia, The Faculty of Business, Management and Economics

Address
Aspazijas Boulevard 5, Riga, Latvia,
Inese.Pelsha@gmail.com