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## CIRCULAR PUBLIC PROCUREMENT AS A COMPONENT OF GLOBAL SECURITY

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**Abstract.** *One of the types of "green" public procurement has been studied - circular procurement based on the principles of circular economy. Their purpose is to ensure that the goods or materials from which they are made are used in the new cycle at the end of their service life. The basic legal models of organization of such purchases are considered and the conditions under which procurements become circular and contribute to the achievement of sustainable development goals, namely the availability of special technical specifications, are identified. Special technical specifications allow the use of goods or materials in the new cycle. Emphasis is placed on the need to apply a "circular criterion", which requires the continued use of goods or materials. Possible ways of introducing circular public procurement into the national public procurement system are suggested. The impact of public circular procurement on global security is argued.*

**Key words:** *public procurement, "green" public procurement, circular public procurement, circular economy, sustainable development.*

### Introduction

Recent studies have shown that global consumption of natural resources since 1980 has far exceeded the level of productivity of the biosphere. Every year, environmental scientists determine the date of the so-called environmental debt - the day when humanity has already used all the resources that the planet is able to renew in a year, ie the Earth's population begins to "borrow" resources from future generations. The Day of Environmental Debt is coming earlier: in 1970 this day came on December 29, and in 2018 - on August 1. Thus, as of 2018, in order to provide current consumption, humanity already needs a planet 1.7 times larger than the Earth (Overshootday, 2022). If such trends continue until 2050, the projected population of 9.6 billion people will need the equivalent of almost three planets Earth to be able to ensure the current standard of living (Unesco, 2018). By 2030, the world's population will need 40% more water than our planet can provide. The consequences of such consumption rates are obvious, they are the result of irrational water use, overfishing, deforestation and carbon dioxide emissions. Over the past 10 years, economic losses due to extreme weather conditions have increased by 86% to \$ 129 billion. USA (World economic forum, 2018). We borrow all the resources we consume today from future generations. For example, in 2011 it was estimated that about 2.5 billion coffee cups alone are simply thrown away each year, and these figures are increasing every year (BBC News, 2018).

Paper coffee cups often contain polyethylene, which prevents soaking, but takes about 200 years to decompose naturally. This situation necessitates the development of new legal models of organization of society and the economy, which would involve the efficient use of resources. In this context, the circular economy (closed-loop economy or circular economy) is attracting more and more attention in different countries (McDowall et al, 2017) as a form of organization of social relations in the context of achieving environmental goals of sustainable

development. As an alternative to the traditional linear economy, which involves the extraction of resources, their processing, use and conversion into waste, such an economy promotes the use of resources as long as possible, obtaining maximum value when using goods, and then recovering goods and the materials from which they are made, at the end of each service life (WRAP, 2022). One of the potential means of achieving the goals of the circular economy is public procurement. For example, the EU Circular Economy Plan (2015) gives public procurement a significant role in its development. Every year the state purchases goods, works and services to perform its functions. According to the World Bank, approximately 50-70% of national budgets are expenditures on public procurement. On average, the total volume of public procurement reaches about 20% of GDP in the countries of the Organization for Economic Cooperation and Development and 15% in countries that are not members of this organizations (Sustainable development, 2008), (IUNIDO, 2017) estimated to account for one-fifth of world GDP. Procurement volumes in Ukraine are also significant - almost 13% of GDP (Public procurement reform, 2022). The potential powerful influence of public procurement on the realization of the goals of the circular economy can be explained by the following facts. In Ukraine, as of 2016, the activities of almost 3,500 businesses depended on public procurement, as their income was 80% or more generated by participation in public procurement. These businesses are engaged in more than 300 different activities (YouControl, 2022). Given such significant volumes, procurement can contribute to transformational changes in the market. Circular procurement should play an important role in achieving the 2030 Sustainable Development Goals (the draft of this document is currently being discussed in expert circles), including Objective 12 - responsible consumption and production.

Analysis of recent research and publications. It should be noted that the development of "green" procurement is gaining momentum in Ukraine, in particular the creation of a regulatory framework for their implementation, which is partly due to the fulfillment of obligations under the Association Agreement with the European Union (EU). Despite the fact that the issue of "green" procurement is the subject of research in foreign and domestic scientific literature, the possibility of organizing circular procurement has not received proper scientific attention. Today in the world there are studies on the implementation of such purchases, conducted by public organizations, associations, institutions and authorities of different countries (Circular procurement; European Commission; Nordic Council of Ministers, 2017). For example, in the Kingdom of the Netherlands, 32 municipalities and two provinces have set a goal to achieve that by 2025, 50% of all procurement is circular (Amsterdam smart city, 2018). However, today circular purchases are implemented mainly in the form of various projects, rather than on a systematic basis, which requires scientific development of their organization and implementation.

Thus, **the purpose of this article** is to identify specific circular procurement, defining the conditions under which public procurement becomes circular and promoting sustainable development, and outlining potential ways to introduce such procurement in country.

**Research results.** The impact of the procurement process on the supplier's activities is linear, in which detailed specifications and price are the main issues to be resolved between the customer and the supplier. As soon as the customer is determined with the technical specifications (size, color of the product, etc.), the supplier selects the resources for the production of the product, which is then delivered to the customer in accordance with the agreed requirements. After use, the customer must decide how to dispose of waste. Optimization of the use of raw materials for production or waste in technical specifications, as a rule, is not solved (Witjes, 2016). This situation can be remedied by circular procurement - a type of "green" procurement, which in the EU is defined as a process in which customers purchase goods, works

and services with limited environmental impact throughout the life cycle compared to - not with goods, works and services of the same functional purpose (European Commission, 2011). In turn, “green” procurement is a component of sustainable public procurement and determines the environmental component of such procurement. According to the European Commission's approach, circular procurement can be defined as the process by which customers purchase goods, works and services that help close energy and material circuits in supply chains to minimize and, at best, avoid negative impact on the environment and minimization of waste generation throughout the life cycle (European Commission, 2017). The peculiarity of circular procurement is that they must comply with the principles of the circular economy and ensure the further “life” of the product after its use. Prolongation of “life” is usually ensured by reusing and increasing the service life of goods through, for example, modernization, repair and reconstruction, conversion of old goods and waste into new resources, recycling of materials into secondary resources. Circular purchases help customers ensure that goods or materials are reused at the end of their service life in the new cycle.

There are different legal models for organizing circular public procurement.

1. After using the object of purchase, the supplier buys it from the customer (buy-sell back) for a specific price. For example, a customer sells used furniture to a manufacturer, which encourages him to restore, modernize or renovate furniture. This option is more rational in relation to goods that have a short shelf life. After all, if we take furniture as an example, the average term of their use is about 9-12 years (Commission Staff, 2018). During this time, the guarantees that the participant who delivered the goods has not yet ceased its activities are reduced.

2. Sale by the customer of the goods after its use by third parties (buy-resell). An example is the sale of plastic to businesses that process it. This model of procurement stimulates recycling processes and is more acceptable when goods are no longer of interest to the supplier for reuse. Such a model may involve not only the sale of used goods, but also the purchase of services for its processing. Back in 2015 in Ukraine, the customer announced a tender for the purchase of services for the disposal of sorted material resources with an expected declared value of UAH 100,000. This service involved the disposal of decommissioned computer and peripheral equipment. 13 bidders took part in the tender, of which the bid of the bidder with the price of UAH 1. According to the procurement contract, the cost of precious metals after disposal of the equipment is transferred to the customer's account in accordance with the Passport of final processing at purchase prices for precious metals set by the NBU State Treasury (Prozorro, 2022). That is, today, procurement can create new ways to use and generate additional revenue from waste disposal. In this case, the waste of some became resources for others. Difficulties in this model are the correct calculation of the cost of disposal of goods at the stage of purchasing a new product using the criterion of evaluating the tender proposal based on the value of the life cycle of the product, ie calculating the approximate cost of disposal, recycling or renewal using. The development of methodologies for calculating such costs for certain types of goods can alleviate the situation with the calculation of costs associated with the collection and disposal of the subject of procurement. For example, according to paragraph 96 of the EU Directive 2014/24 on public procurement at the EU level, common methodologies for calculating life-cycle costs for certain categories of goods or services should be developed. When such methodologies are developed, they should be mandatory.

3. The customer focuses on receipt services instead of purchasing goods. In this case, the ownership of the goods remains with the supplier. A leasing service or services is purchased, but not the product itself. Examples include Philips and Engie, which provide lighting services at Schiphol Airport (Amsterdam), and the airport only pays for light consumption. And Philips

collects them at the end of their service life for further processing (Roadmap, 2020). In 2013, in Bremen, the Senate Department of Environment, Construction and Transport replaced its existing fleet with membership in the local car sharing service. Prior to that, the Department owned 11 cars, but their use was low - less than three hours a day. Due to the transition to car-sharing services with online booking, Bremen now has access to more flexible and efficient modes of transport, including electric vehicles, which saves money on maintenance, parking, etc. (European Commission, 2017). In this model of circular procurement, an important role will be played by the procurement planning stage, when the customer must ask whether the purchase of goods is necessary at all, whether the service can be purchased. Quite often the product itself is not needed, but only the function it performs. There is a reorientation to the needs of the customer, not to the product itself. This approach can help meet the need for fewer things, thus reducing the environmental impact of production processes. As consumer funds become more dependent on the time of use of the product, consumers can be encouraged to reduce it, thus reducing the environmental impact during use. Such processes often include the concept of "leasing society" (Turlee, 2013), which is a new model of organization of society and involves structural changes in the use of resources, including the transition from a linear to a circular model of efficient and consistent use of resources. According to the definition of the European Parliament, the leasing society is characterized by new relationships between producers and consumers, based on new and service-oriented business models (European Parliament, 2012). Changes in the ownership structure in the leasing company shift the responsibility for the maintenance, maintenance and disposal of goods to producers / sellers. This creates incentives for the production of more durable and resource-efficient goods, optimizing its disposal, ensuring easier processing. This will help reduce the number waste. For example, the customer returns the goods to the owner after use, not just gets rid of it. That is, such a society can be the basis for changing approaches to procurement to achieve the goals of the circular economy.

It is important to note that all these models do not guarantee the implementation of circular purchases. An additional condition is needed, in particular, reaching an agreement on what will happen after the stage of use - the functional purpose of the subject of procurement. If there is no relevant agreement and further control, then such purchases provide only the possibility of closing the energy or material circuit in the supply chain. For example, utensils made of a material that, according to technical characteristics, can be recycled after use, including plastic, but this does not automatically contribute to the goals of sustainable development, because it can simply be disposed of after use. Thus, circular purchases do not automatically contribute to sustainable development. In fact, such a purchase becomes circular provided that the value of the purchase is maintained and the degree of damage, destruction or destruction is minimized, as well as from the end of the product's life and further actions to maximize the life cycle of the product and resources. That is, in a circular purchase there should be not only a requirement to use the material, for example, by processing, but also a requirement for further action on the subject of procurement after its service life or a requirement to maintain its value during use (maintenance, - grinding of spare parts, etc.). During the application of the first model of the use of the so-called circular criterion should be provided for the organization of circular purchases for the sale of goods after their use to the supplier. The essence of this criterion is that in the case of returning the goods to the supplier, the latter will give him a "second life". That is, the sale must be carried out with the condition of further use of the goods. The same applies to another model, when the customer sells the product to a third party or purchases a recycling and recycling service. The participant must provide information on reuse or revisions, including the parties involved in the process. Then the evaluation criterion will be

not only the price - additional points will be given to participants who will offer a higher level of reuse than specified in the technical specifications (Commission Staff, 2018).

Thus, the first important condition for determining circular purchases is the need to apply the "circular criterion", which provides requirements for the further use of goods or materials.

In order for the specified "circular" criterion for further actions with the product to be met, it is necessary to correctly determine the technical specifications at the stage of its first purchase. It is important for the customer to immediately anticipate the product design requirements that will determine the reusability of components, their repair and improvement. For example, there should be mandatory requirements in the technical specifications that the bidder must provide documents proving that their product can be disassembled with standard tools that allow reuse, upgrade, repair or recycling of components. For example, furniture should be designed in such a way that it can be disassembled without permanent fastening elements (eg glue). These mandatory requirements are designed for office furniture for reuse and renewal in the UK and are called "Government Procurement Standards for Office Furniture", which have been prepared for sustainable public procurement and are mandatory for customers, who have committed themselves to adhering to these standards (Procure's note, 2022). According to the standard specifications developed by the European Commission, if the furniture has parts that cannot be reused, it is proposed to send them for recycling, before performing sorting, for example, plastic, metal, textiles, wood, etc.

Service-oriented model of procurement to be characterized by the experience of the city of Zurich in refusing to purchase office equipment (including printers) and focusing on services from an external supplier (for printing, copying, scanning, etc.). The city currently pays only for the number of pages and no longer spends money to purchase equipment. It is important to note that the technical specifications for such purchases included: 1) paper consumption: service providers should use only recycled paper and the default two-sided and black-and-white printing mode; 2) it was assumed that documents that needed to be printed are stored in a certain repository. Printing cannot begin until the user logs into this repository. This system avoids sloppy printing, which is often not even removed from the printer, and solves certain information security issues; 3) the printers had to meet the requirements of energy saving to have the function of switching to energy saving mode when not in use. This concept envisages a reorientation from the purchase of small and medium-sized printers to offices to the purchase of several but large printers, which would be installed, for example, in the corridors. This approach to procurement has helped the city significantly reduce costs. Prior to that, the city owned 100 different models of printers, copiers, scanners and fax machines. By changing the approach to procurement, they reduced the number of such devices from 5,500 to 3,600 with only two brands and seven models, resulting in 34% energy savings. The new approach has significantly improved the printing skills of employees, which has led to a reduction in the amount of paper and printing (Gpp in practice, 2015).

Thus, the second important condition for circular procurement features are features of technical specifications. The basis for the potential implementation of circular procurement in Ukraine may be the introduction of the above tool for customers, namely: calculating the value of the subject of procurement taking into account its life cycle, which includes costs associated with the collection and disposal of goods. This is already provided in the draft Law on Amendments to the Law of Ukraine "On Public Procurement" and some other legislative acts of Ukraine to improve public procurement, the text of the bill is at the stage of public discussion (Draft Law, 2022). The criterion of product life cycle assessment will provide more opportunities for customers for the strategic use of public procurement and the organization of circular procurement. After all, currently the application of non-price criteria is low even if they

can be used in accordance with Art. 28 of the Law of Ukraine "On Public Procurement". Thus, the practice of the appellate body in the field of public procurement is ambiguous and often not in favor of customers who try to apply other criteria along with the price. According to Art. 28 of the Law of Ukraine "On Public Procurement", other criteria together with the price are applied in the case when the procurement is complex or specialized. In its letter, the Ministry of Economic Development and Trade of Ukraine noted that the Law of Ukraine "On Public Procurement" does not define the concept of "procurement that is complex or specialized" and recommends that customers justify the use of non-price criteria (Ministry of Economic Development, 2022). The appellate body in the field of public procurement does not always support the use by customers of other evaluation criteria than the price, which they then can not prove when challenging such requirements, and explain the complexity of procurement (Dubrova, 2018). An example of this is the situation when a foreign company appealed against the requirements established by the Social Insurance Fund for Accidents at Work and Occupational Diseases of Ukraine in the tender documentation for the purchase of cars for the disabled. In particular, the customer, in addition to the price, set the following evaluation criteria: transmission, fuel consumption in the combined mode per 100 km, airbags, air conditioning / climate control, warranty period. The foreign complainant stated that the cars being purchased were not complex or specialized, were not manufactured to a separate specification, there was a permanent market for them, so the establishment of other criteria other than price are illegal. The Permanent Administrative Board of the Antimonopoly Committee of Ukraine for Complaints of Violations of Public Procurement Legislation concluded that the customer did not provide explanations and confirmation of the specialized nature of the subject of procurement, and obliged the Social Insurance Fund to comply with the documentation with the requirements of the Law (Decision № 1040-r, 2012).

Thus, the current practice complicates the implementation of not only circular but also sustainable procurement in general, considering only price as a priority criterion. In this case, it will not be possible to assign additional points, for example in the case of furniture reuse services, to a participant who offers a higher and longer level of furniture reuse than those specified in the specifications. However, the above-mentioned draft law on amendments to the Law of Ukraine "On Public Procurement" can solve this problem, as in the text of Art. 29 on the consideration and evaluation of tender proposals, such wording as "procurement that is complex and specialized" is proposed to be removed.

At the same time, the issue of the introduction of circular procurement is of a strategic nature, as its solution requires not only clarification of formal procedural rules of procurement, but also changes in thinking and approaches to public procurement with emphasis on priority measures for recycling or reuse. whose. The introduction of circular procurement in Ukraine will require a rethinking of the goals and means of legal regulation of relations in the field of public procurement, which are mainly aimed at saving public funds.

Based on the above, it is possible to draw the following conclusions:

1. Circular public procurement is a type of "green" public procurement and aims to ensure that goods or materials at the end of their service life are reused in a new cycle. Such purchases play an important role in planning and defining product requirements in order to ensure a long life cycle and high potential for further use, modernization or processing. The most common models of circular procurement are as follows: 1) the supplier after using the subject of procurement buys it from the customer;

- 2) the customer sells the goods after its use to third parties; 3) the customer focuses on receiving services instead of purchasing goods.

2. Public procurement becomes circular under two conditions at the same time: 1) special technical specifications that allow the use of goods or materials from which it is made in the new cycle, such as the ability to disassemble or recycle them; 2) application of the "circular criterion", ie requirements for further use of goods or materials.

3. In order to introduce circular procurement, it is necessary to move from a functional to a strategic approach to public procurement. It seems expedient to introduce planning principles in the field of green procurement development in Ukraine, in particular by setting a recommended percentage of procurement that customers should seek, which is in line with the practice of developing national implementation plans of "green" procurement by EU member states.

In addition, circular procurement should play an important role. One of the means of gradual introduction of circular procurement in Ukraine is the development of standard specifications for certain categories of goods that have a high potential for reuse, extension of their existence or processing for the convenience of customers during procurement.

Through circular public procurement, public organizations can contribute to the goals of state environmental policy, such as reducing greenhouse gas emissions, improving energy and water efficiency, reducing production and consumption waste, and improving the safety of finished products. In the social sphere, circular public procurement can have an impact, for example, on creating a more comfortable environment and improving the health of users. In economic terms, the circular public procurement approach involves estimating the full value of the product life cycle, which provides an objective assessment of the economic benefits or losses of the subject of procurement and the effectiveness of public procurement. In general, circular public procurement contributes to significant resource savings, the development of a more independent and powerful economies of countries, which is one of the factors of global security.

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