

JOURNAL OF CORPORATE RESPONSIBILITY
AND LEADERSHIP

PUBLIC AND BUSINESS SECTORS INTERSECTIONS

The System of Public-Private Partnership in the Sphere of State Policy Implementation of Circular Economy

doi: <http://dx.doi.org/10.12775/JCRL.2019.010>

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Abstract

Purpose: The aim of research is to study the system of interaction between the state and the private sector and provide improvement recommendations in order to ensure implementation of the state policy about the circular economy.

Design/methodology/approach: The research uses scientific methods of analysis and synthesis to form a system of projects of the circular economy on the basis of public-private partnership, as well as methods of generalization and grouping to improve the components of the public administration mechanisms.

Findings: The article substantiates the necessity of developing public-private partnership in the direction of projects for the modernization and development of the real economy sector, in the particular implementation of circular economy projects. A system of public-private partnership to ensure the implementation of the state policy of the circular economy has been built.

Research and practical implications: The practical significance of scientific results lies in substantiating the approach to improving public-private partnership in general, and creating a system of public-private partnership in the circular economy in particular, which is a prerequisite for motivating businesses to implement projects, as it allows the latter to gain competitive advantage in a market economy.

Originality/value: The system of realization of circular economy projects on the basis of public-private partnership is formed, including: definition of the concept of “public-private partnership in the circular economy”, the ways and forms of its realization, and the mechanisms of state management of circular economy projects on the basis of public-private partnership.

Paper type: original research.

Keywords: circular economy, public policy, public administration, public-private partnership.

1. Introduction

The issue of the need to change traditional models of production and consumption, in the context of exacerbating global problems, affects all countries without exception and creates new challenges for public authorities to find mechanisms to improve the situation and accelerate the transition to sustainable development. Economic and social development without harming the environment is currently a priority of public policy not only in developed countries, but also those aimed at achieving economic, socio-environmental progress. “Sustainable development is no longer a fashionable philosophy of life. Currently, it is becoming the cornerstone of all strategic and tactical documents being developed at all levels – from global to local” (Ishchenko, 2016, p. 20). The economic crisis, the unstable political situation, changes in the environment in most countries of the world make it impossible to independently ensure sustainable development not only of the country as a whole, but also, even of their individual regions. After all, given the lack of budgetary resources to finance various types of development

programs, strategic projects, in most cases, remain unattainable and ineffective. World practice shows that the establishment of effective cooperation between the state and the private sector allows the successful implementation of programs that ensure the achievement of specific strategic goals in the shortest possible time.

On the one hand, the cooperation of the state and business allows to solve problems of social importance, and on the other hand, economic entities, whose main purpose is to obtain and maximize profits, are involved for such purposes with the support of the state. The interaction between the state and the private sector, or in other words the public-private partnership, is not new. "Research shows that the history of public-private partnerships has a long way to go. The mechanism of such cooperation first appeared in concession form in France in 1552, but began to be actively used in the nineteenth and twentieth centuries, in particular during the construction of canals, roads and railways. Another surge of increased interest in public-private partnership took place in the 90s of the twentieth century, as a result of the development of the idea of 'New Public Management' and 'Good Governance' and is considered a continuation and development of the concept of public outsourcing and specific relationships with contractors" (Kiaer, 2004, p. 17). The concept of public-private partnership originated in the United States as a reaction to the phenomena of financing and operating educational programs, and then utilities by the state and private companies. "This category became widespread in the 1960s to define public-private partnerships in urban renewal, infrastructure development, and public service delivery" (Yescombe, 2007, p. 299).

Since the 1990s, the widespread practice of implementing infrastructure development projects in European countries has been involving businesses in their financing, which has necessitated the adoption of appropriate changes in public administration. "In 1992, the Conservative government in the United Kingdom launched the Private Finance Initiative, which became the first systematic program to promote public-private partnerships. Partnerships have begun to be perceived by society and government as the optimal mechanism for the authorities to attract financial resources and business management skills for the provision of public services and infrastructure development, without loss of property rights and control over these processes" (Simak, 2014, p. 90). The objective need for the country to move to a position of sustainable development, and the transformation of the traditional

economic model on the basis of a circular economy determine the search for alternative solutions to pressing problems. In view of the above, the issue of effective interaction between the state and business in the context of ensuring the implementation of the state policy of the circular economy is currently relevant. Public-private partnerships attract the attention of the ranks of researchers. The following scholars have raised the issue of public-private partnership in their research: Hammami et al. (2006), Osei-Kyei and Chan (2015), Chou and Pramudawardhani (2015), Verhoest et al. (2015) and others.

The problem of implementing the state policy of the circular economy on the basis of public-private partnership, given the urgent need to move to sustainable models of production and consumption, as well as the inability to fully finance this project from the state, and improving the interaction of state and business in the circular economy, is a key condition for a country to achieve the Sustainable Development Goals and ensure the rapid development of the country as a whole and its individual regions in particular. Therefore, the purpose of the research is to study the system of interaction between the state and the private sector and provide improvement recommendations in order to implement the state policy of the circular economy. The article used the methods of analysis and synthesis for research of theoretical bases of realization public-private partnership policy in the legislation of Ukraine, the method of historical analysis of the experience of other countries in public-private partnership, and the methods of generalization and grouping for the construction of the system of public-private partnership in ensuring the implementation of the state policy of the circular economy.

2. Public-private partnership policy in the legislation of Ukraine

The main legal act that “defines the organizational and legal framework for interaction of public partners with private partners and the basic principles of public-private partnership on a contractual basis” is the Law of Ukraine “On Public-Private Partnership”, which came into force in 2010. According to the Law of Ukraine “On Public-Private Partnership” (2010), public-private partnership is defined as “cooperation between the state of Ukraine, the Autonomous Republic of Crimea, territorial communities represented by relevant state bodies and local

governments (state partners) and legal entities other than state and utilities, or natural persons – entrepreneurs (private partners), which is carried out on the basis of the contract in the manner prescribed by this Law and other legislative acts, and meets the characteristics of public-private partnership, defined by this Law”. The interpretation of the concept of public-private partnership, which is specified in the legislation, is broad, because the legislator does not specify the forms of such cooperation, only the types of agreements that can be concluded within public-private relations, namely: concession agreement, property management agreement, agreement on joint activities and other agreements. The category ‘other contracts’ is not defined by the legislator, but the law stipulates that “a contract concluded in a public-private partnership may contain elements of various contracts (mixed contract), the terms of which are determined in accordance with civil law of Ukraine” (Law of Ukraine “On Public-Private Partnership”, 2010). The lack of a specific list of types of agreements that can be concluded within the framework of public-private partnership:

- (1) firstly, inhibits the development of the institution of public-private partnership in Ukraine;
- (2) secondly, leads to the possibility of using this gap in the implementation of public-partnership relations as an inaccuracy, which may determine the likelihood of violation of the terms by one of the parties;
- (3) thirdly, gives grounds to use various types of agreements provided by the current legislation within the limits of interaction of the state and business. The use of a wide range of contracts of a civil law nature, from the point of view of business structures is a positive factor that stimulates the development of relations between the state and business entities. After all, it is possible for a private partner to provide in the contract the most favourable and profitable conditions for a particular project, however, on the other hand, the lack of a clear legally defined list of forms of interaction between the state and the private sector leads to limitations of public-private partnership.

Analysed interpretations of public-private partnership by international institutions allow us to identify the most significant features of public-private partnership, namely:

- (1) firstly, it is the interaction / cooperation / agreement between the state and the private partner;

- (2) secondly, this interaction must be mutually beneficial (the private sector makes a profit, the state solves socially important tasks);
- (3) thirdly, the project must be aimed at meeting the needs of society.

The implementation of projects on the basis of public-private partnership can be carried out if such conditions of interaction contribute to mutual interests of business and the state in the use of resources at all stages of the project. According to Article 7 of the Law of Ukraine “On Public-Private Partnership”, “the objects of public-private partnership are:

- (1) existing, in particular reproducible (by reconstruction, modernization, technical re-equipment) objects, which are in state or communal ownership or belong to the Autonomous Republic of Crimea, including subsoil areas;
- (2) objects created or acquired as a result of the implementation of an agreement concluded within the framework of a public-private partnership” (Law of Ukraine “On Public-Private Partnership”, 2010).

The purpose of forming a relationship based on the principles of public-private partnership implies that the state cannot independently implement the project, which necessitates the involvement of a private partner. According to experts of the National Institute for Strategic Studies, “[p]ublic-private partnership is identified among the key mechanisms for implementing the policy of modernization Ukraine’s economy, solving important socio-economic problems” and prove the objective need for such mechanisms, because “for large-scale modernization projects in various sectors of the economy significant investment resources are needed, a powerful source of which can be private business. At the same time, in the conditions of post-crisis development, business interest in state support is growing, which will reduce the risks of private investment, increase the reliability of investment projects for credit institutions” (NISS, 2012).

3. Experience of other countries in public-private partnership

The analysis of literature sources allows to systematize the following models of public-private partnership contracts, the characteristics of which are given in Table 1.

Table 1. Models of public-private partnership contracts and their characteristics

| Model | Characteristics |
|--|--|
| BBO (Buy – Build – Operate) | Transfer of state property to a private or quasi-state structure on the terms of a contract, according to which the property must be modernized and operated for a certain period of time. State control is exercised during the term of the contract on the transfer of property. |
| BOO (Build – Own – Operate) | The private sector finances, builds, owns and operates a facility or provides a service on the basis of lifelong ownership or lease. State restrictions are set in the original agreement and through the operation of a permanent regulatory body. |
| BOOT (Build – Own – Operate – Transfer) | The private structure receives a permit for construction at its own expense and operation of the facility (as well as for charging for its use) for a certain period, after which the ownership is returned to the state. |
| BOT (Build – Operate – Transfer) | Contracts specifically designed for large investment projects for new construction or renovation. The responsibility for investment and profit lies within the private investor. |
| BLOT (Build – Lease – Operate – Transfer) | A private company receives the right to finance, design, construction and operation of the leased building (as well as the collection of fees from consumers of the service) for the lease period, by paying a rent. |
| DBOT (Design – Build – Operate – Transfer) | The advantage of this approach is that it involves the responsibility of the private sector to perform several functions at once: design, construction and maintenance of the facility. |
| ROT (Reconstruct – Operate – Transfer) | Similar type to DBOT (Design - Build - Operate - Transfer). The difference is that the private party takes over the management of an existing facility and it is its responsibility to restore it. |
| DBFO (Design – Build – Finance – Operate) | The private sector designs, finances, builds and operates a new facility on the basis of and during a long-term lease. The private sector transfers the new building to the public sector after the lease ends. |
| FO (Finance Only) | A private entity (usually a financial services company) finances a project directly or through various mechanisms, such as long-term leases or the issuance of securities (bonds). |

Table 1. Continued

| Model | Characteristics |
|--|---|
| O&M (Operation & Maintenance Contract) | A private enterprise, in accordance with the terms of the contract, operates for a certain period of time the property belonging to the public sector. Ownership of property is retained by the state structure. |
| DB (Design – Build) | The private sector designs and builds infrastructure facilities on the basis of an immediate construction contract to meet public sector requests for services, which are often provided at a fixed price. Thus, the risk of overspending is transferred to the private sector. |
| OL (Operation License) | A private operator receives the right (license) to produce and provide a public service, usually for a certain period. This model is often used in information technology projects. |
| PSA (Production Sharing Agreement) | The state instructs a private investor for a certain period of search, exploration and extraction of minerals in a certain area of the subsoil and the conduct of work related to the agreement, and the investor undertakes to perform the work at his own expense and risk, followed by reimbursement and payment (rewards) in the form of part of profitable products. |

Source: compiled on the basis of: United Nations (2008), Pavlyuk and Pavlyuk (2010), Mitskan (2012), and Law of Ukraine “On Production Sharing Agreements” (1999).

However, as noted by experts from CEDR (Conference of European Directors of Roads) “today there is no single, universal for all countries and areas of application of public-private partnership. Each country adapts the appropriate mechanism to its own culture, state of the economy, government-selected priorities of socio-economic development of the country, the political climate in the country and the legal system” (CEDR, 2009). World practice proves the successful implementation of public-private partnership projects in various fields. According to the National Institute for Strategic Studies: “The UK has focused public-private partnership projects on infrastructure such as schools, hospitals, prisons, defence and highways; Canada implements a significant number of public-private partnership projects in areas such as energy, transport, environmental protection, water supply and sanitation, recreational facilities, information technology, health, and education; Greece mainly implements public-private partnership projects in the transport sector; Ireland has identified public-private partnership facilities such as roads and urban transport systems; Australia has identified urban transport and life support as priority areas

for public-private partnerships; The Netherlands uses a public-private partnership mechanism in the public housing sector and urban life support systems; Spain implements public-private partnership projects in the construction and operation of toll roads and urban life support systems; The United States mainly implements public-private partnership projects that combine environmental protection and livelihoods in rural areas. There is significant experience in implementing public-private partnership projects in the areas of water supply and sewerage, solid waste management, ecotourism and recreation. The application of the mechanism of public-private partnership in the fields of education and health care has developed primarily in the United Kingdom” (NISS, 2012).

Given the experience of developed countries in the implementation of public-private partnership projects, for Ukraine it will have a positive effect in improving public policy. After all, the synergetic effect of cooperation between business and public authorities has an impact on the welfare of society, as well as brings additional income for businesses and the state budget. This will preserve the social and environmental aspects of business development in the country, which is important today in the context of achieving the goals of sustainable development and mechanisms of the circular economy.

4. The system of public-private partnership in ensuring the implementation of public policy of the circular economy

Given the above, we believe that implementation of the circular economy concept in Ukraine is possible on the basis of public-private partnership in order to accelerate the process of transition to sustainable models of production and consumption. In order to implement the provisions of the circular economy at any level, it is necessary to establish effective interaction between business and public authorities, in other words to improve the domestic system of public-private partnership. After all, as defined in the *Concept of Public-Private Partnership Development in Ukraine for 2013–2018*, among the priority areas of public-private partnership are: “production infrastructure and high-tech production (transport and communications, transport infrastructure, energy sector, engineering); agro-industrial complex (market and production infrastructure); construction and housing and communal

services (implementation of socially significant infrastructure projects, construction, reconstruction and technical re-equipment in the areas of heat supply, centralized water supply and sewerage, improvement of resource and energy efficiency, household waste management, landscaping, etc.); social protection (health, education, culture, tourism and sports); scientific, sci-tech, innovation and information spheres; development of nature reserve fund” (Concept of Public-Private Partnership Development in Ukraine, 2013). Building an effective system of state-partnership relations for the implementation of the circular economy will ensure the development of the priority areas outlined above.

The implementation of the circular economy on the basis of public-private partnership should start with the highest priority and at the same time the least risky pilot projects, which will form an effective management mechanism and improve the regulatory framework, as well as institutional, economic and organizational support for public and private partners. It should be noted that the peculiarities of economic activity in the circular economy, in terms of industries and territorial location of business structures, will determine the sectoral and regional features of the management system of public-private partnership projects, and the development of domestic public-private partnerships in general. Given the above, the system of public-private partnership in ensuring the implementation of public policy of the circular economy will be as presented in Figure 1.

The system of public-private partnership in ensuring the implementation of circular economy projects should primarily characterize the interaction of entities: public and private partners. Improvement of this system of interaction must be carried out with the formation of a categorical apparatus in this area. Public-private partnership on a circular economy is the system of interaction between public and private partners, characterized by longevity, risk sharing, private partner investment and obtaining the right to manage public-private partnership projects which meet the principles of the circular economy and are carried out on the basis of an agreement in accordance with the legislation of Ukraine. Interest in combining the resources of public and private partners in ensuring the implementation of circular economy projects, from the standpoint of the state will address the issue of solving strategic tasks; from the standpoint of business structures – making a profit in a socially and environmentally responsible way. In

particular, a pilot project that will comply with the provisions of the circular economy on the basis of interaction between government and business can be implemented:

- (1) firstly, within one enterprise by the creation of a new production enterprise or the modernization, technical re-equipment or reconstruction of an existing one;
- (2) secondly, by creating new production and / or modernization, technical re-equipment or reconstruction of existing enterprises, voluntarily united within a specific industry;
- (3) thirdly, by territorial integration of a set of business structures, both newly created and those that have undergone modernization, technical re-equipment or reconstruction.

Priority areas of public-private partnership are manifested in the system of the circular economy. In view of this, the implementation of the state policy of the circular economy on the basis of public-private partnership, on the one hand, will ensure the development of Ukraine as a country with sustainable development, and on the other - will contribute to achieving the state goals to improve public-private partnerships. In the context of the implementation of the circular economy, the interaction of business and the state (in accordance with the conceptual priority areas of public-private partnership) as a tool to accelerate the process of transforming the economy into a closed cycle, will be manifested in the following:

- (1) at the stage of product development, projection or design, which will correspond to the principles of the circular economy, the interaction of the state and business structures will take place in the scientific, sci-tech, innovative and information spheres. After all, this stage is the most important, from the standpoint that products must be designed so that after the end of its life cycle, it did not end up in the landfill, but as input for the production of other products. In view of this, at the stage of product development, design and planning, it is necessary to involve economic agents in research, innovation and information spheres. Provided that the state establishes mutually beneficial relations on the basis of public-private partnership with the above entities, the stage of product development / projection / design will be reached;
- (2) at the stage of production / re-production, public-private partnership will be manifested in terms of production

infrastructure, in the field of high-tech production and agro-industrial complex, depending on the nature of production and products to be manufactured. Building effective cooperation between business and the state on the implementation of production projects that will meet the principles of the circular economy, namely in the context of creating such a production infrastructure that will ensure the circulation of resources;

- (3) at the stage of consumption / use / re-use of products and its collection after consumption / use / re-use, the interaction of business structures and public authorities will take place within the social sphere and the sphere of household waste management. After all, the product after its use must be recycled in order to 'decompose' it into raw materials in order to further manufacture products from it. First of all, in this case, the public-private partnership will solve the problem of waste accumulation, which will lead to positive changes in the social sphere;
- (4) at the stage of recycling, public-private partnership will be manifested in the field of production infrastructure, as it is a separate industry that will serve the production of products on the basis of a circular economy; in the field of high-tech production and agro-industrial complex, depending on the type of waste (products, after the end of the life cycle), which will be processed. Today, recycling as an industry is a priority for the Ukrainian economy, given the imperfection of the domestic waste management system.

In the context of ways to implement such projects, the following steps are identified: implementation of the principles of the circular economy within one enterprise; within a particular industry and within a specific territory. Implementation of these projects is possible in the forms: BBO; BOO; BOOT; BOT; BLOT; DBOT; ROT; DBFO; FO; O&M; DB; OL; PSA and others. The choice of the form of implementation of circular economy projects on the basis of public-private partnership will depend on the content, direction, industry and priority of projects. It should be noted that in order to improve cooperation between the state and business, the initiative to implement circular economy projects on the basis of public-private partnership should come from both the public partner and business structures. The same applies to the revision of the conditions of implementation, because in the process of building

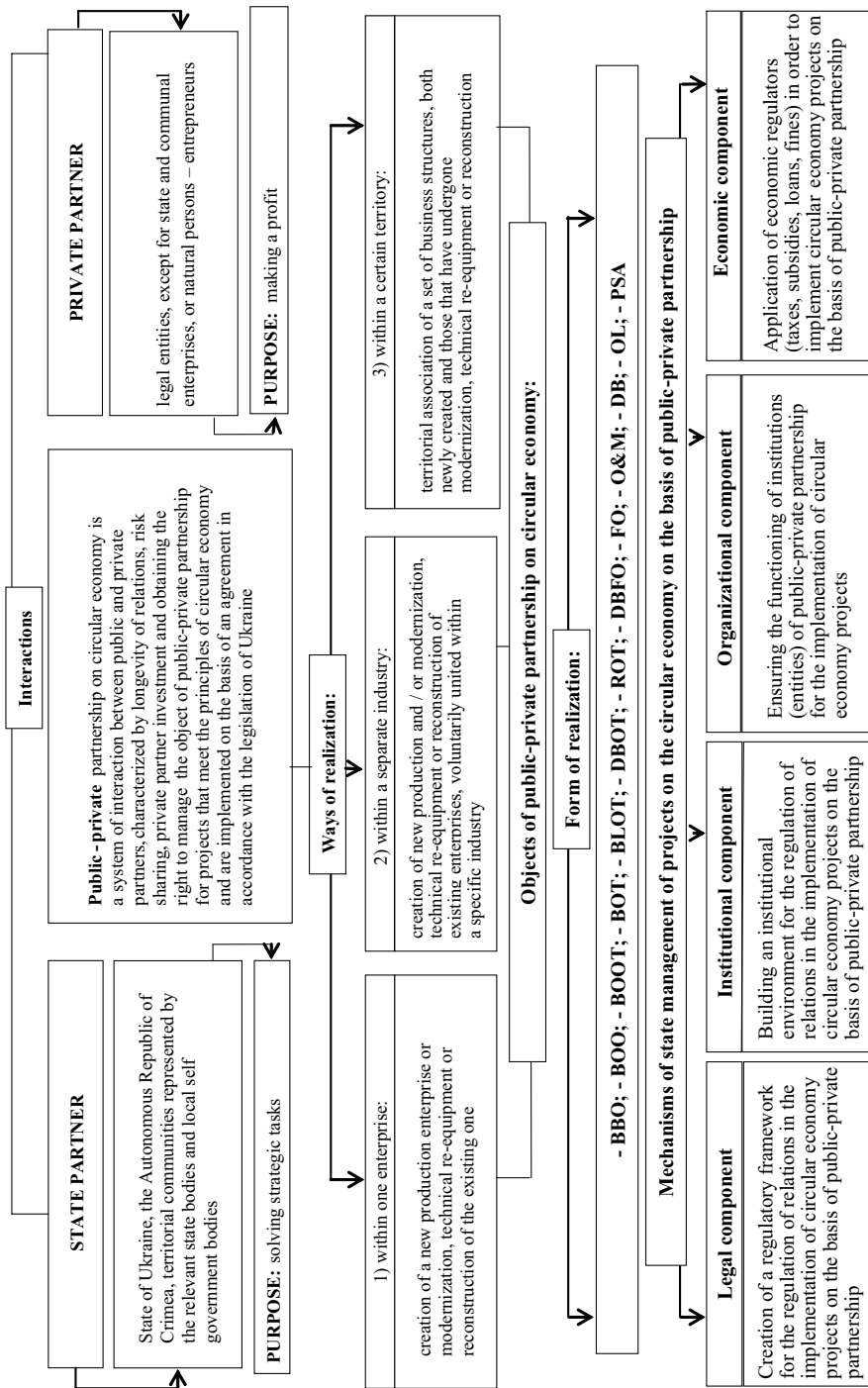


Fig. 1. The system of public-private partnership in ensuring the implementation of the state policy of the circular economy
Source: own elaboration by the authors.

a system of interaction between the state and business, the interests of both partners must be taken into account.

In terms of the mechanisms of project implementation on the basis of public-private partnership, the following components are identified: legal, institutional, organizational and economic. Improving the system of interaction between the state and business in ensuring the implementation of the provisions of the circular economy will be traced in the context of each of these components of the mechanism of public administration. Considering that the projects implemented on the basis of public-private partnership in Ukraine were aimed at modernization of the public services sector: heat supply, sewerage, road repairs, etc.; the current legislation defines the procedure and conditions for cooperation in this direction. The need to develop the real sector of the domestic economy, determines the feasibility of using the potential of public-private partnership as a mechanism to intensify the development of Ukrainian production on the basis of a circular economy. In view of the above, in order to improve the system of interaction between the state and business in general, and in particular, in terms of cooperation between public and private partners in the implementation of circular economy projects, it is necessary to do the following:

- (1) in terms of the legal component of the mechanism of public management of projects in the circular economy - the creation of a regulatory framework for the regulation of relations in this area. The legal framework for the implementation of relations between the state and business in the implementation of circular economy projects should be based on the rules characterized by the legal provision of simple, clear and transparent procedures for building cooperation in this area. It is necessary to adopt regulations taking into account the proposals of business and the public, because the rules of legislation should be flexible in order to use them in building cooperation in the format of a public partner – a private partner. It is also important in this direction to define anti-corruption norms, in order to eliminate and prevent corruption in relations based on public-private partnership, because in this cooperation there is both budget funding and relations with public authorities, which can be used by business structures in their own interests. Thus, in order to build effective interaction between the state and private partners for the implementation of circular economy projects, first of

- all, it is necessary to create a legal basis that will determine the basic principles of public-private partnership in this area. Identifying at the state and regional levels the priority areas or strategically important objects of public-private partnership for the implementation of the circular economy will allow the authorities and private partners to initiate circular economy projects. This requires the adoption of relevant legislation, amendments to the existing legal framework and approval of state development programs. This will allow to implement pilot projects in certain areas and use their experience to further develop cooperation between the state and business structures;
- (2) in terms of the institutional component of the mechanism of public management of projects in the circular economy - building an institutional environment for the regulation of relations in this area. The institutional environment is a set of institutions whose functional responsibilities include the development and management of circular economy projects on the basis of public-private partnership. Ways to build an institutional environment will be to create a separate body or unit of an existing institution that will be responsible for regulating relations in the implementation of circular economy projects on the basis of cooperation between the state and business structures. Adjustments to the functional responsibilities of 'service' institutions in terms of giving them the authority to regulate the relationship 'state-business' in ensuring the implementation of circular economy projects. Such 'service' institutions are entities that regulate relations in the field of environmental protection, anti-corruption activities, economic development, etc. Building an institutional environment to ensure the implementation of circular economy projects on the basis of public-private partnership is to form institutions and determine the relationship between them in order to coordinate their activities in the direction of solving the tasks;
 - (3) in terms of the organizational component of the mechanism of state management of circular economy projects – ensuring the functioning of institutions (entities) of public-private partnership for the implementation of circular economy projects. In this aspect, it is necessary to divide the functions and staff the activities of institutions for the implementation of

circular economy projects. Thus, improving the organizational support for the implementation of circular economy projects on the basis of public-private partnerships includes: building the structure of institutions in this area, regulation and streamlining of power in order to avoid duplication of functions; organization of consulting and discussion of circular economy projects with determination of documents necessary for their implementation on the basis of public-private partnership; providing material, technical and information resources of institutions in order to be able to implement their functions, etc.

- (4) in terms of the economic component of the mechanism of state management of projects in the circular economy - determining the procedure and conditions of application of economic regulators (taxes, subsidies, loans, fines). In this aspect, first of all it is necessary to determine the conditions and forms of state support and the application of economic instruments to stimulate the implementation of projects on the basis of cooperation between the state and business. This component is important in ensuring the development of public-private partnership in the research area, because a rationally constructed system of incentives and state guarantees will affect the level of interest of business structures in the implementation of circular economy projects in this way. In order to form an effective system of guarantees and state support for the use of economic incentives, it is necessary to establish a dialogue between the government and business, as well as with the NGOs involved. Involvement of public organizations in the discussion and construction of the system of economic incentives will help prevent corruption in the implementation of projects, because each party to the public-private partnership has its own interests. The formation of an effective system of state support is a tool for intensifying cooperation between the state and business, as well as building the real sector of the economy. After all, as defined by the Concept and in the light of international experience, “for rapid economic development, in addition to the adoption of national legislation in the field of public-private partnership, it is necessary to use a state support mechanism to attract private investment on the basis of such partnership” (Concept of public-private partnership development in Ukraine, 2013).

5. Conclusions

The study has proved the need for public-private partnership in the implementation of circular economy projects on the basis of partnership between business and the state, given that effectively built interaction between the state and business structures to implement the provisions of the circular economy is a mechanism for economic growth, social welfare without damage to the environment. The implementation of projects in this way will ensure the solution of strategic objectives set by the Sustainable Development Strategy “Ukraine 2020” and the Concept of Public-Private Partnership. A system of implementation of circular economy projects on the basis of public-private partnership has been formed, which includes: conceptual apparatus of “public-private partnership on the circular economy”, the ways and forms of implementation, as well as a mechanism of state management of circular economy projects on the basis of public-private partnership. Improving the interaction between the state and the private sector in the implementation of public policy of the circular economy on the basis of public-private partnership will address the components of the mechanism of public administration: legal, institutional, organizational and economic. Improving public-private partnerships is a prerequisite for motivating business structures to implement projects in this way, as it allows the latter to gain a competitive advantage in a market economy.

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