“Environmental responsibility mechanism development in the public sector of the economy”

AUTHORS	Inna Makarenko https://orcid.org/0000-0001-7326-5374 http://www.researcherid.com/rid/AAE-8453-2020 Diana Bychenko https://orcid.org/0000-0002-6001-3052 Serhiy Makarenko https://orcid.org/0000-0001-6455-3585 Gunay Qasimova

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Inna Makarenko, Doctor of Economics, Associate Professor, Associate Professor at Accounting and Tax Department, Sumy State University, Ukraine.

Diana Bychenko, Researcher, International Economy Department, Sumy State University, Ukraine.

Serhiy Makarenko, Chief Auditor, AF LLC "Sumycoop-audit", Sumy, Ukraine.

Gunay Qasimova, Lecturer, Khazar University, Azerbaijan.

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Inna Makarenko (Ukraine), **Diana Bychenko** (Ukraine),
Serhiy Makarenko (Ukraine), **Gunay Qasimova** (Azerbaijan)

ENVIRONMENTAL RESPONSIBILITY MECHANISM DEVELOPMENT IN THE PUBLIC SECTOR OF THE ECONOMY

Abstract

Environmental responsibility mechanism in the public sector of the economy has an important sense in UN Sustainability Development Goals achievement, as well as in ensuring the competitiveness of the state-owned companies and the state as a whole. Sustainability concept, concept of "smart cities and smart communities" and the implementation of public administration reform, the necessity to increase the transparency of state-owned companies and the responsibility of municipalities to communities determine the reasonability and urgency in environmental responsibility mechanism development. Systematization and comparative analysis of world and national experience of environmental responsibility mechanism development in the public sector of the economy were made. The author's approach to the structuring of the mechanism of environmental responsibility in the public sector was developed. Public policy peculiarities implementation in the field of environmental responsibility were investigated considering the levels of regulation of such liability: in state-owned companies as models for other sectors of the economy; in public authorities and municipalities.

Keywords environmental responsibility, Sustainable Development Goals, stakeholder, transparency, sustainability

JEL Classification H00, Q01

INTRODUCTION

Compliance with the EU – Ukraine Association Agreement, approximation to the requirements of the Europe 2020 Strategy and the Ukraine-2020 Sustainable Development Strategy that are aimed at achieving the United Nations Sustainable Development Goals (SDG), transposition of the UN Guiding Principles and the Principles of Corporate Governance of OECD and the concept of sustainable development of "smart cities and smart communities" in view of the reform of public sector of the economy require an effective mechanism of environmental responsibility (ER) in it.

The obligatory nature of the norms, established by the state authorities, is a guarantee of the implementation of the selected corporate social and environmental responsibility (ER) model in the country and the peculiarities of the usage of those or other instruments for its promotion, taking into consideration the interests of stakeholders. Therefore, the state is given an important role in ensuring the formation of the mechanism for ER as a part of CSER (corporate social and environmental responsibility) within patterns of its behavior.

Moreover, state-owned companies as strategically important and exemplary for the private sector should demonstrate additional transparency and accountability in their activities in order to elaborate such a mechanism.

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Municipalities as local government authorities, the responsibility of which is the basis of multilateral dialogue of stakeholders for achieving the SDG and promotion of the initiatives of sustainable development, are an integral part of the ER mechanism in the public sector.

The importance of the level approach was proposed by the authors to the study of the mechanism of ER in public sector of the economy, which is actualized with the lack of systematic developments in this area in Ukraine.

The urgency of the research is also due to the fact that each country has its own peculiarities in formation of the ER strategy and policy and the role of state in its dissemination, while the level of transparency of state-owned companies, as well as the level of responsibility of municipalities, are quite different.

The structure of the article includes a review of the literature, an analysis of the public regulatory policy in the field of ER (section 1), methods (section 2), main results in consideration of the ER mechanism features at the level of state-owned companies and municipalities (section 3), as well as conclusion and recommendations.

1. LITERATURE REVIEW

An overview of the existing sources for the study of the mechanism of the ER in the public sector should be considered in two areas – from the standpoint of standards and regulators, as well as from the scientists' points of view.

Internationally the ISO 26000 standard is an exemplary standard for building a mechanism for joint regulation of ER between the private and public sectors. At the same time, the most active public policy on ER is considered as the basis for building relations between government and business on new principles.

According to the UN Global Compact document "The Role of Governments in Promoting Corporate Responsibility and Private Sector Engagement in Development", governments' activities in the field of ER should be limited to monitoring and setting objectives for enterprises and banks to achieve sustainable development and its goals (UNGC, 2010).

At the same time, the United Nations Guiding Principles impose a special state role in protecting against the violation of human rights by state-owned enterprises.

EU policies include enhancing the visibility of ER and disseminating best practices, improving and tracking the levels of trust of business, improving self-regulation and co-regulation processes, increasing market remuneration for CSER, improving disclosure of company social and environmental information, further integrating CSER into education, study and research.

Thus, at the level of standards and program documents, the state and public sector have an important role to play in formation of the mechanism of the ER as a part of CSER strategy.

At the level of academic sources, complex researches on CSER public policy were made by Knudsen et al. (2015) – 22 EU countries; Albareda et al. (2008) – 15 EU countries.

As a result of processing the empirical experience of regulating the mechanism of the ER at the public policy level, Albareda et al. (2008) highlighted the following patterns of the state's role: "partnership" (Scandinavian countries, the Netherlands), "business in the community" (Ireland, the UK), "sustainability and citizenship"(countries of Central Europe), "agora" (Mediterranean countries). At the same time, these patterns reflect traditional approaches to doing business and the balance between the regulatory powers of business and the state in these countries.

Knudsen et al. (2015) distinguish four types of policies in the area of CSER implementation (endorse, facilitate, partner, mandate). These types of policies are defined in order of increasing their regulatory power.

In Steurer's work (2009), five groups of instruments of state influence on the dissemination of CSER were highlighted: legal, economic, informational, partnering and hybrid policy instruments.

Fox et al. (2002) distinguish four types of government policies to promote CSER: endorsement, facilitation, partnering, and mandate.

At the state level, public policy in the field of stimulating the mechanism of ER is considered in the researches of Hawrysz and Foltys (2015) – on the nature protection activities of public sector organizations in Poland; Hinz (2009) – on the priority of building a "harmonious society" by means of ER in China and in particular the role of state-owned companies in this process; Vartiala (2011) – on the consideration of problems with CSR of state-owned companies in Finland; Pranowo et al. (2013) – on CSER consideration as a synergy of government, business and community efforts on the example of Indonesia.

Consequently, a large number of works, including those from individual countries of the world, are devoted to the issues of the formation of the mechanism of the ER, first of all, in state-owned companies, and the role of the state in the processes of achieving sustainable development and SDG through the means of ER. At the same time, the experience of Ukraine in promoting the ER initiatives has not been sufficiently reflected. We propose to make a systematization and comparative analysis of world and national experience in the development of ER in the public sector based on the author's approach:

- in view of the peculiarities of the implementation of public policy in the field of ER;
- at the level of state-owned companies as an example for other sectors of the economy;
- at the level of state authorities and local self-government (municipalities).

2. METHODS

Theoretical and methodological basis of the study are the concepts of sustainability, corporate social and environmental responsibility and corporate governance.

Specific implementation of the abovementioned concepts concerning our study was grounded by peculiarities of public sector. We use this concept concerning the level of the public policy, as well as the level state-owned companies and state authorities and local self-government (municipalities).

Graphical, comparative and content analysis were used as instruments for environmental responsibility on these levels.

3. RESULTS

3.1. Role of government in ER policy realization

Social and environmental responsibility in the widest sense is the responsibility of the organization for the impact of its decisions and actions on society and environment through transparent and ethical behavior.

This understanding of environmental responsibility in the public sector of the economy allows us to consider it not only at the level of state-owned companies, but also at various organizations representing executive authorities at the local (regional) levels, in particular, municipalities.

Coordination of the implementation of the principles and mechanisms of the ER at the level of state-owned companies and municipalities should be considered in the context of the overall public policy to promote responsible behavior of companies in achieving the SDG.

The peculiarities and tools for implementing this policy are determined by the country's model and approaches to regulating CSER of companies, including state-owned companies. Thus, in the Anglo-Saxon model (the USA, the UK), CSER of companies is their immanent duty, while the state is given supervisory functions with minimal regulation of CSER. Unlike the Anglo-Saxon model, the Continental model of the CSER (EU) is based on close dialogue between companies and their stakeholders, high state activity in the regulation of the whole CSER mechanism and ER as its part.

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At present, the framework's public policy for the implementation of the ER is aimed at increasing the competitiveness of the economy, its investment attractiveness, and its business reputation in the geopolitical space.

Worldwide practice, within both models, has developed a number of mechanisms and tools for influencing the dissemination of ER of companies within the framework of public policy of its support (Istomina et al., 2010; Buckland, 2006):

- information tools for the coverage of the essence, role and model of ER, social and eco-labels;
- educational, research and methodological tools;
- instruments of multistakeholder's and cross-sectoral partnership of stakeholders at different levels;
- instruments of standardization, evaluation, reporting and independent confirmation of activity in ER;
- economic (tax, preferential) and legal instruments for stimulating and supporting the development of ER mechanisms.

The ER model adopted in the country and the tools, which are allocated in frameworks of this model, define the peculiarities of implementation of the ER mechanism at the level of companies of different sectors. And they are regulated by the relevant normative acts, in particular:

South Africa (King III Code of Governance Principles, which defines the obligatory nature of the CSER and disclosure of it for listed companies);

France (the Grenelle II Act, which defines the obligatory nature of the CSER and disclosure of an information about ER for listed and large companies to report on the dimensions of sustainable development);

the United Kingdom (the Companies Act, which requires a disclosure of information on emissions of greenhouse gases by individual companies in annual reporting);

Norway: Section 3-3c of the Accounting Act to report on their CSR activities defnes the obligatory nature of the CSER and disclosure an information on it for companies with a state-owned shareholding and listing companies;

India (Companies Act, which defines the obligatory nature of the CSER and disclosure of its for listed companies);

Indonesia: The State-Owned Enterprises Law (Law No. 19/2003), The Investment Law (Law No. 25/2007), The Limited Liability Company Law (Law No. 40/2007) define obligatory nature of the CSER and disclosure of the information about it for state-owned, listed companies and limited liability companies;

Malaysia: National integrity plan defines obligatory nature of the CSER and disclosure of the information about it for companies with a state-owned capital;

China: A Cooperation Agreement on Promoting Environmental Information Disclosure by Listed Companies defines obligatory nature of the CSER and disclosure the information about it for listed companies.

In our opinion, the most ordered is the legal framework for the ER in the EU. The formation of legal framework began in 1995 with the creation of the European Business Network – CSR Europe. Among the key documents that define the mechanisms of ER for European companies are the following: Green Paper of European Commission (2001), EU Environmental Protection Plan and Integrated Product Policy (IPP), EU Eco-Management and Audit Scheme (EMAS), European Environmental Efficiency Initiative (EEEI), EUROPE 2020 (a strategy for smart, sustainable and inclusive growth).

In addition to specific requirements for the functioning of the ER mechanism in each country, international practice currently has a large number of standards at different levels (supranational, international and national organizations) that regulate the CSER of organizations operating in various sectors of the economy – public, real, and financial. Among the most notable of these are the

United Nations Global Compact (UNGC), OECD Guidelines for Multinational Enterprises, ISO 26000:2010 – Guidance on Social Responsibility, the GHG Protocol, Climate Disclosure Standards Board (CDSB), GRI Standards, IIRC Integrated Reporting Framework, the AA1000 AccountAbility Principles Standard and others.

These standards and documents are exemplary for both private and public companies and organizations, because they regulate in a universal way the process of functioning of the mechanism of the ER and ensure transparency regarding the progress in SDG achieved by various organizations and their accountability to the major groups of stakeholders.

At the same time, sectoral diversification in the public sector of the economy takes into consideration a number of specific regulatory documents in the field of ER aimed at increasing the accountability and transparency of sector entities:

a) Extractive Industries Transparency Initiative (EITI) aims to disclose information on payments to the government from extractive companies, an independent peer review of the information provided by companies and its monitoring by a multi-stakeholder group (government, private sector, and the public). The standard is voluntary and is supported in 51 countries of the world. The aim of the implementation of the standard in Ukraine since 2013 is to ensure the transparency in the management of the country's natural resources and to disclose public revenues from the mining sector, primarily for companies in the oil and gas sector, as well as in coal and iron sectors. The key principle for the implementation of the standard in Ukraine determines the norms of the Law No. 521-VIII "On Amendments to Certain Legislative Acts of Ukraine on Transparency in Extractive Industries", the Cabinet of Ministers of Ukraine Decree No. 910-r as of August 9, 2015 and the Cabinet of Ministers of Ukraine Resolution "On Approval of the Provision of Security Transparency in the Extractive Industries" No. 1039 dated December 2, 2015. Within them, the first national Report of Transparency Initiative in Extractive Industries in Ukraine was published.

b) Construction Sector Transparency Initiative – CoST, aimed at ensuring the efficiency of infrastructure projects at the expense of the state funds of the participating countries, also at increasing the transparency and accountability of their implementation. The Initiative is non-governmental and non-profit and brings together 13 countries. The purpose of the CoST Initiative in Ukraine since 2013 (the year of accession of Ukravtodor to it) is to create an effective platform for Cooperation between government, business and civil society. The basic directions of activity are defined by the Memorandum of Cooperation between the International Secretariat of CoST, the Ministry of Infrastructure of Ukraine, Ukravtodor and Transparency International Ukraine from 2015.

c) EU's FLEGT Action Plan (Forest Law Enforcement, Governance and Trade, Regulation (EU) No. 995/2010 of October 20, 2010), which sets out the obligations of operators in the timber market. It was adopted in 2003. The Plan aims to reduce illegal timber production and strengthen the sustainable forest management and transparency in this area.

d) WGEA – Working Group on Environmental Auditing within the framework of the International Organization of Supreme Audit Institutions (INTOSAI), whose activities are aimed at developing and implementing auditing tools in the field of environmental protection policy by the highest financial control authorities. It was established in 1992. The focus areas of the group's work are the audit of measures to conserve biodiversity, air and water purity, energy efficiency, climate change, resource efficiency, along with the effectiveness of public sector policy in financing of environmental activities, protection of cultural heritage, urbanization, sustainable urban development. The Accounting Chamber of Ukraine as the supreme national financial control authority is a member of INTOSAI, however, there are no significant developments in the field of environmental audit in domestic practice.

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3.2. State-owned companies' transparency as a ground for ER mechanism development

State-owned companies are not only drivers of structural transformations in the economy, but they also play an important role in advancing ER initiatives and developing examples of its implementation in order to achieve SDG for the private sector, establishing a dialogue with society and other stakeholders for economic well-being, social justice and burden reduction on environment.

In view of Ukraine's accession to the worldwide initiative on the achievement of the SDG, development of their national targets, adoption of the Ukraine-2020 Sustainable Development Strategy, key areas for reforming public sector enterprises are: strengthening supervision and improving transparency and improving corporate governance in accordance with OECD Guidelines on Corporate Governance of State-Owned Enterprises, primarily deals with the implementation of ER mechanism at such enterprises. Ukraine's accession to the Association Agreement with the EU in 2014 updated the necessity to strengthen the transparency and accountability of state-owned companies, their competitiveness, the quality of corporate governance, and the level of combating corruption on the basis of implementation of the provisions of Directive 2014/95/EU "On the disclosure of non-financial and diversified information of some large companies and groups", dated December 6, 2014.

The achievement of these tasks is based on the implementation of an effective mechanism for ER companies in the public sector of the economy.

In Ukraine, compliance with the principles of ER by the public sector companies has several advantages for both the companies themselves and for society as a whole (Kurennaya et al., 2015):

- ensuring of anti-corruption initiatives, confirmation of transparency and accountability of state-owned companies, trusting for them by key stakeholder groups within the framework of corporate governance reform in such companies;
- creation of patterns that are inherent to state-owned responsible companies, which should become the benchmarks for private companies;
- achieving compliance with the best global management practices in such companies, ER standards and integration into the international commodity and financial market;
- reconstruction of business models and strategies of state-owned companies towards socio-ecologically and economically effective ones and providing competitive advantages for companies;
- facilitating improvement of the image of the state in the world geoeconomic space;
- increase of consumer and public loyalty.

As of July 1, 2018, according to the State Property Fund of Ukraine, there are 3,547 business entities of the public sector of the economy (state enterprises, their associations, subsidiaries and business associations, the state share in the authorized capital of which exceeds 50 percent) (State Property Fund (2018).

The register (list) of economic entities of the state sector of the economy state enterprises, their associations, subsidiaries and business associations, the state share in the authorized capital of which exceeds 50 percent) with information on the subjects of management and individual indicators of financial and economic activity of business entities, as of July, 1, 2018 (Uniform State Property Register, 2018).

In general, in the Unified Register of State-Owned Objects, for the same date, only 22.4 thousand legal entities are registered, which operate only on the basis of state ownership and belong to the sphere of management of the relevant subject of management; 491 economic organizations with corporate rights of the state; more than 1 million objects of state property, which testifies to the large scale of the public sector of the Ukrainian economy. According to the results of the first quarter of 2018, its share in the economy amounted to 14.4% (Figure 1).

Such proportions of the public sector of the economy, together with its strategic importance both

Source: Ministry of Economic Development and Trade of Ukraine (2018).

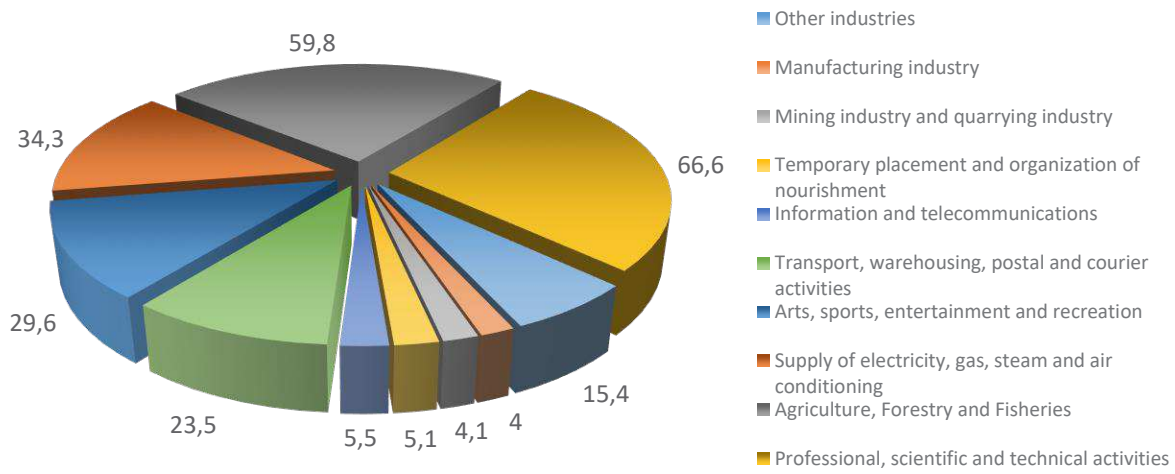

Figure 1. The share of the public sector in the economy for the first quarter of 2018

for the economy and for meeting the social needs, determine the importance of socially responsible behavior of state-owned companies.

An overview of the sectoral structure of the public sector of the economy showed that the following areas are the most significant: professional, scientific and technical activities (66.6%), agriculture, forestry and fisheries (59.8%), supply of electricity, gas, steam and air conditioning (34.3%), art, sports, entertainment and recreation (29.6%), transport, warehousing, postal and courier activities (23.5%). The same areas are dominated by the indicators of the share of the number of economic entities of the public sector of the economy, net income (revenue) from the sale of products (goods, works, services) and the average value of non-current and current assets of these entities.

Unfortunately, systemic research of transparency of the compliance with the ER and of the progress in achieving the SDG by the public sector companies of Ukraine was not made. The only research of this type is the Transparency and Social Responsibility Project, the Guidelines for State-Owned Companies (made by Center for Corporate Social Responsibility Development and its Index of Transparency and Accountability of the 60 largest state-owned companies of Ukraine for the period 2014–2015) (Center for Corporate Social Responsibility, 2015).

The Points Assessment Technique takes into consideration the key elements of the mechanism of their ER, which correlates with the directions of ISO 26000, they are:

- the company's disclosure of full information on the main aspects of the CSER: corporate governance issues, labor relations, human rights, environmental policy, honest operational practices, relations with stakeholders and community development (component "content" – the maximum number of points is 61);
- coverage of corporate strategy and strategy on corporate social responsibility, financial and ER reporting (component "strategy and reporting" – the maximum number of points is 30);
- ensuring of convenient access to any information about the company's social responsibility (component "navigation" – the maximum number of points is 9) (Center for Corporate Social Responsibility, 2015).

According to the results of the research of the Center for Development of Corporate Social Responsibility, the average level of transparency of state-owned companies is 21.2 points out of 100 possible. This testifies to the low level of development of their mechanism of ER.

Comparison of the sectoral structure of the public sector of the economy and the transparency of the ER mechanisms of companies rated within the index is presented in Table 1.

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Table 1. Index of transparency of Ukrainian state-owned companies by their sectoral affiliation

Source: Created by the authors according to Center for Corporate Social Responsibility (2015).

No. by order	Activity	Enterprise	Points	Place
1	Agriculture, forestry and fisheries	PJSC "Agrarian Fund"	55	7
		SE "Ukrspirt"	38	15
		State Food and Grain Corporation of Ukraine	22	23
2	Mining industry	NJSC "Naftogaz of Ukraine"	31	11
		Zaporizhzhya Titanium-Magnesium Combine Ltd.	15	38
		PJSC "Lisichanskvuhillia"	12	43
		State Enterprise "Coal of Ukraine"	11	45
		State Enterprise "Eastern Mining and Processing Plant"	11	45
		NJSC "Nadra Ukrainy"	11	45
		State Enterprise "Directorate of Kryvyi Rih Mining and Processing Plant for Oxidized Ores"	7	55
3	Manufacturing industry	PJSC "Sumykhimprom"	29	14
		OJSC "Turboatom"	26	17
		State Enterprise "Design Bureau "Pivdenne" named after M. K. Yangel"	24	20
		OJSC "Odessa Port Plant"	22	24
		SE "Antonov"	22	24
		State Enterprise "Scientific and Production Complex of Gas Turbine Building "Zorya" – "Mashproekt"	17	32
		SE "Electrotyazhmash"	14	40
		SE "Production Association Southern Machine-Building Plant named after O. M. Makarov" (YUZHMASH)	12	43
		Kharkiv State Aviation Production Enterprise	6	59
4	Supply of electricity, gas, steam and air conditioning	SE National Atomic Energy Generating Company "Energoatom"	66	1
		PJSC "Ukrgidroenergo"	51	2
		PJSC "Centrenergo"	47	3
		National energy company "Ukrenergo"	30	13
		OJSC "Zaporizhzhyaoblenergo"	29	14
		OJSC "Kharkivoblenergo"	25	19
		State Specialized Enterprise "Chornobyl NPS"	16	36
		State Enterprise "Regional electric networks"	7	55
5	Wholesale and retail trade	State Enterprise "State Company for Export and Import of Products and Services for Military and Special Purposes "Ukrspetsexport"	18	31
6	Transport, warehousing, postal and courier activities	SE "Ukrkosmos"	43	4
		State Enterprise "Administration of Seaports of Ukraine"	38	5
		State territorial-branch association "Lviv railway"	37	6
		State Enterprise "Odessa Railways"	35	8
		State Air Traffic Service Service of Ukraine	34	9
		State Enterprise "Southern Railway"	32	10
		State territorial-branch association "South-Western Railway"	28	16
		SE "Odessa Sea Commercial Port"	24	20
		PJSC "State Joint-Stock Company" Motor Roads of Ukraine"	23	22
		State Enterprise "Boryspil International Airport"	22	24
		"Ukrzaliznytsya" (State Administration of Railway Transport of Ukraine)	21	27
		SE "Sea Commercial Port" Yuzhny"	21	27
		Ukrainian state-owned post office "Ukrposhta"	21	27
		State Enterprise "Ukrainian Railway High-Speed Company"	17	32
		State Enterprise of Logistics of Railway Transport of Ukraine "Ukrzaliznichpostach"	17	32
		SE "Illichivsk Sea Commercial Port"	14	40
		State Enterprise "International Airport» Lviv"	11	45
		Mariupol Sea Commercial Port	11	45
		State Enterprise "Ukrainian State Center for the Exploitation of Specialized Cars"	10	51
		State Enterprise "Darnytsky car repair factory"	8	55

Table 1 (cont.). Index of transparency of Ukrainian state-owned companies by their sectoral affiliation

No. by order	Activity	Enterprise	Points	Place
7	Financial and insurance activities	JSC "Oschadbank"	37	6
		PJSC JSB "Ukrgasbank"	31	10
		JSC "Ukreximbank"	26	17
		PJSC "Ukrainian Bank for Reconstruction and Development"	20	30
		JSC "Rodovid Bank"	10	51
		PJSC "JSCB" Kyiv" (ОН НА СТАДИИ ЛИКВИДАЦИИ)	4	60
8	Art, sports, entertainment and recreation	State Enterprise "Arena Lviv"	17	32
		"National Sports Complex "Olimpiyskiy"	16	36
		State Enterprise "Palace of Sport"	13	
		State enterprise "National cultural-artistic and museum complex "Mystetskyi Arsenal"	11	45
		National complex "Expocenter of Ukraine"	10	51
		State Enterprise "National Palace of Arts" Ukraine"	7	55

Despite the largest share of the public sector in the field of professional, scientific and technical activities, none of the surveyed companies within the company's transparency index represented this industry. Companies that deal with agriculture, forestry or fisheries, as the next with a share of state participation (PJSC "Agrarian Fund", State Enterprise "Ukrspirt", State Food and Grain Corporation of Ukraine) have low transparency indicators. However, these companies have to demonstrate an active environmentally responsible position in view of the specifics of activities.

The leading industry in Ukraine is the provision of electricity, gas, steam and air conditioning by the level of disclosure about ER. SE National Atomic Energy Generating Company "Energoatom" (66 points), PJSC "Ukrgidroenergo" (51 points), PJSC "Centrenergo" (47 points) occupy, respectively, 1, 2 and 3 places by value of the index.

At the same time, the largest number of state-owned companies, which are among the 10 most transparent for the ER, represent the transport, warehousing, postal and courier activities sector (SE "Ukrkosmos" (43 points), State Enterprise "Administration of Seaports of Ukraine" (38 points), State territorial-branch association "Lviv railway" (37 points) State Enterprise "Odessa Railway" (35 points), State Air Traffic Service Service of Ukraine (34 points) and State Enterprise "Southern Railway" (32 points). As a whole, the index of transparency has hit 20 companies of this kind of activity.

Despite of Ukraine joining the initiative on transparency in the mining industry, there are a lot of companies that have the lowest transparency indicators for ER, for example, NJSC "Naftogaz of Ukraine", Zaporizhzhya Titanium-Magnesium Combine Ltd., PJSC "Lisichanskvuhillia", State Enterprise "Coal of Ukraine", State Enterprise "Eastern Mining and Processing Plant", NJSC "Nadra Ukrainy", etc. The average index value for companies in this industry is only 14 out of 100 possible.

Together with these companies, machine-building companies and other companies of the manufacturing industry, which are characterized by low values of the index, also require more active involvement of the mechanism of ER due to negative environmental impact and social significance.

It should be noted that as of December 31, 2017, only two companies from the surveyed array (SE National Atomic Energy Generating Company "Energoatom" and PJSC "Centrenergo") summarize the information on the operation of the ER's mechanism in non-financial reports.

For example, the nonfinancial report of the transparency indicator leader for 2016 – SE National Atomic Energy Generating Company "Energoatom" is as an example not only for state-owned companies, but also for most private-sector companies, because it simultaneously takes into consideration the requirements of the International Standard Report on Sustainable Development of Global

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Reporting Initiative (GRI, version G4, Core); ten principles of the UN Global Compact 10 Principles; International Standards for Interacting with the Stakeholders of the AA1000 Series (Institute of Social and Ethical AccountAbility), as well as the United Nations Sustainable Development Goals.

3.3. ER mechanism on the municipal level

An important level of implementation of the ER mechanism in the public sector is the level of central and local executive authorities and local authorities (municipalities) in view of the implementation of the SC & C (Smart Cities & Smart Communities) and targeting of SDG 11 to make cities and communities safe, resilient and sustainable.

In general, SDG 11 means achieving a security and sustainable urban development that means providing safe and affordable housing, as well as slum modernization. It also involves investments in public transport, creation of green public areas, as well as improvement of urban planning and management in a way that simultaneously ensures inclusiveness and overall equal participation of people.

The National System of the SDG until 2030 provides the implementation of the following tasks:

a) ensure the availability of housing;

b) ensure the development of settlements and territories solely on the basis of integrated planning and management with the participation of the public;

c) ensure the preservation of the cultural and natural heritage with the involvement of the private sector;

d) ensure timely alert of the population about emergencies using innovative technologies;

e) reduce the negative impact of pollutants on the environment of cities through the use of innovative technologies;

f) ensure the development and implementation of local development strategies aimed at economic growth, job creation, tourism development, recreation, local culture and production of local products.

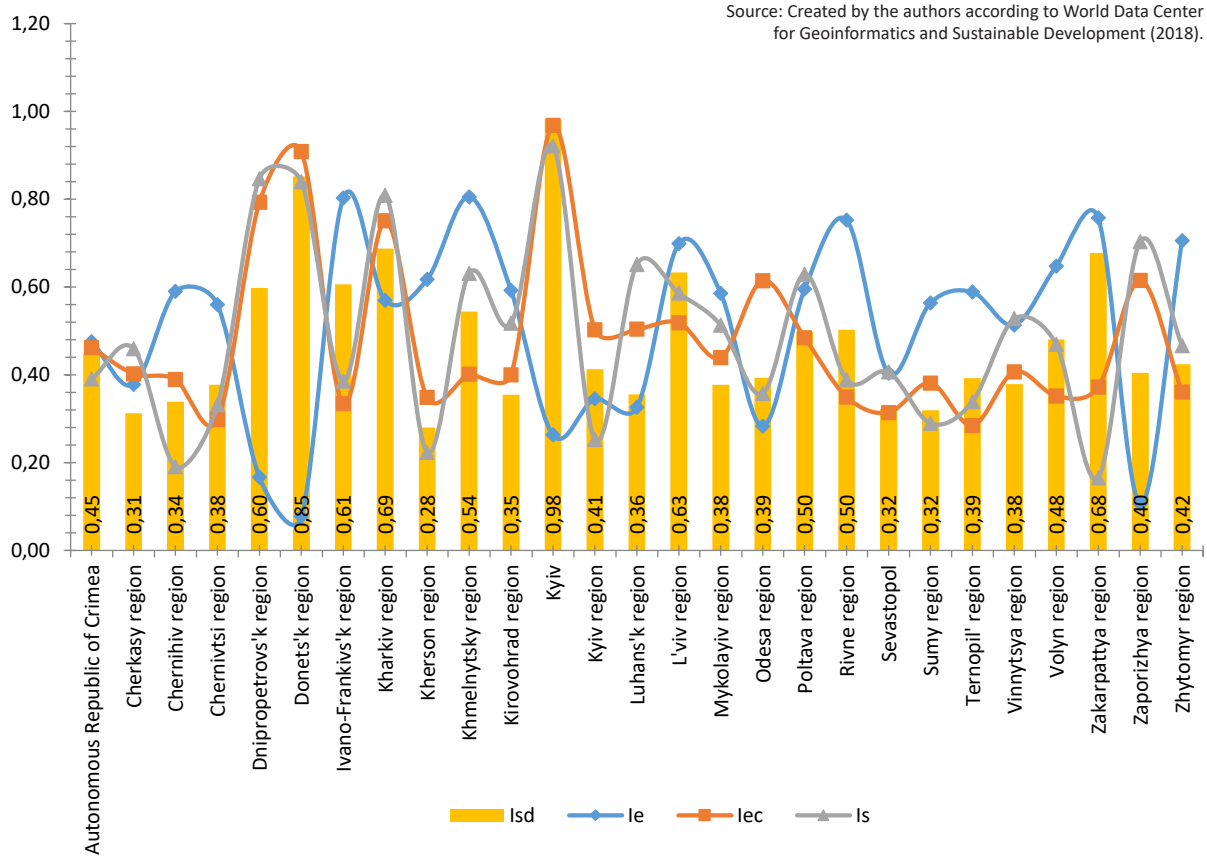
At the level of central and local executive authorities and local self-organization authorities, the organization of system of stakeholder's interaction, especially of local communities and authorities in order to meet these objectives through mechanisms, is achieved through the mechanisms of social and environmental responsibility of the authority.

Social and environmental responsibility of municipalities can be seen as responsibility for the impact of their decisions and actions on the community, environment and society, which is based on dialogue with the community for its sustainable development and prosperity.

Despite of the commonality of key areas for implementation of the mechanism of social and environmental responsibility of municipalities and companies identified by the standard ISO 26 000 (organizational management, human rights, customer relations, business practices, labor relations, relations with the community, environmental protection), at the level of authorities of local government, this mechanism has a number of features (Zinchenko, 2014):

- the most important principle of responsible activity is the principle of taking into consideration the necessity of stakeholders and building of effective communication with the community, in contrast to the principle of transparency and accountability, which are in priority for state-owned companies;
- the necessity of taking into consideration the specifics of the activities of municipalities in providing essential services to consumers, modernizing and improving the energy efficiency of local infrastructure, its safe operation;
- provision of proper sanitary conditions and maintenance of environmental standards at the local and regional level;
- realization of socially significant projects for the community;

Source: Created by the authors according to World Data Center for Geoinformatics and Sustainable Development (2018).



Note: Ie – Index of environmental dimension; Iec – Index of economic dimension; Is – Index of social and institutional dimension; Isd – Index of sustainable development.

Figure 2. Sustainable development index and indices of social, ecological and economic dimensions by regions of Ukraine for the period 2004–2016

- possibility of an independent regulation of the mechanism of social and environmental responsibility through the mechanism of local development programs and other normative acts;
- creation of a system of management and promotion of the ER of the local culture in the communities, also through the interaction with local companies.

If the benefits of implementation of company's ER mechanism are primarily increasing of their competitiveness and transparency, then for municipalities, the companies are conducting responsible activities, which are focused on raising public confidence, preventing conflict situations, increasing the efficiency of interaction with the business community, resource and energy efficiency.

In addition to the general standard ISO 26000 in the context of the implementation of the SC & C concept, the development of smart networks, the digitalization of local governance, and the monitoring of progress in the development of territorial communities by the working group WG 2 ISO / TC 268/. They have developed a number of community-specific standards for socio-environmental liability and sustainable development:

- terminology (ISO / DTR 37102): sustainable development and community resilience – dictionary;
- indicators (ISO 37120, ISO TR 37121): ISO 37120: 2014 sustainable community development;
- indicators for urban services and quality of life;
- infrastructure (ISO TR 37150, ISO TS 37151 and ISO TR 37152):

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- ISO/TR 37150 Intelligent infrastructure of communal services, an overview of existing activities related to the system of indicators;
- ISO/TS 37151 – smart community infrastructure – principles and requirements for performance indicators;
- ISO/TR 37152 PRF smart communities infrastructure – general framework for development and functioning – special group of reports;

- management systems (ISO 37101): ISO 37101 – community sustainable development – management system.

The world-wide experience of standardizing the municipal liability mechanism has, unfortunately, not found its reflection in Ukraine. One of the reasons for such a situation is the low level of sustainable development and the perception of such responsible activity at the local level. Thus, at the level of the regions of Ukraine, the analysis of the existing system of economic, social, ecological indexes, as well as the integral index of sustainable development (Figure 2), confirms the domination of only industrialized cities and regions, primarily due to the economic and social dimension of sustainable development.

At the same time, the environmental dimension in these regions is relatively low and requires the activation of the mechanism of responsibility of organizations in this direction. Conversely, in more environmentally-friendly regions, social and economic aspects are a priority for inclusion in municipal strategies for sustainable development and socio-environmental responsibility of organizations.

CONCLUSION

The mechanism of ER in the public sector of the economy plays a primary role both for the implementation of strategic objectives – the achievement of the SDG, as well as ensuring the competitiveness of the country as a whole. Implementation of a number of program documents (EU-Ukraine Association Agreement, Ukraine-2020 Sustainable Development Strategy, UN Guiding Principles and OECD Principles of Corporate Governance) determine the relevance of the investigation into the mechanism of the ER in the public sector of the Ukrainian economy.

The introduction of the concept of sustainable development of "smart cities and smart communities" and the implementation of public administration reform, the necessity to increase the transparency of state-owned companies and the responsibility of municipalities to communities increase this urgency.

Based on the above-mentioned aspects, the mechanism of ER in the public sector of the economy is proposed to be structured according to a level approach that takes into consideration the level of implementation of public policy in the field of ER; the level of state-owned companies as an example for other sectors of the economy and the level of state and local government (municipalities).

Benefits of the ER mechanism implementation in state-owned companies and municipalities are proved: increasing their competitiveness and transparency, increasing the level of public trust, preventing conflict situations, improving the efficiency of interaction with business communities, resource and energy efficiency.

Normative field of functioning of the ER mechanism in the public sector of the economy is formed on the basis of a number of documents:

- well-known international standards in the field of ER (ISO 26000 OECD Guidelines for Multinational Companies, the GHG Protocol, GRI Standards and Guides AA1000 SES AccountAbility, etc.);

- common for certain state unions (EU Green Paper, Europe 2020 Strategy, Directive 2014/95/EU, etc.);
- local laws, codes and guidelines for each country;
- specific initiatives for the public sector (Concepts for the Sustainable Development of Smart Cities and Smart Communities, Principles of Corporate Governance in Public Companies, Extractive Industries Initiative Transparency Standard, International Transparency Initiative in the Construction Industry, Action Plan for the Implementation of Legislation, Governance and trade in forestry, documents of the Working Group on Environmental Audit).

In Ukraine, the specified level of the ER mechanism begins to emerge with the addition of a number of international initiatives. In order to fulfill the SDG's elaboration and adoption of a national strategy on ER, support for sustainable development initiatives and disclosure of information on them are extremely important.

At the level of the companies of the public sector, the study of their ER mechanism lies in the field of general CSER transparency of the activities of companies as a strategic direction of their reform. In Ukraine, this is updated with a significant share of the public sector in the economy. According to the results of the state-owned companies' transparency study in Ukraine according to the Center for the Development of Corporate Social Responsibility, it was found that the level of it is low, especially in the mining industry. Companies in other spheres do not adequately disclose information on their compliance with the main aspects of the ER environmental policy, relations with the community.

Increasing of the transparency of state-owned Ukrainian companies needs to be added to the best practice of disclosing non-financial information with ER, in particular on the basis of GRI standards, standardization of ER reports.

In the view of the introduction of the SC & C concept, the development of smart networks, the digitalization of local governance, resource efficiency and the progress of the development of territorial communities, the mechanism of the ER of the municipalities also needs attention. In view of the low level of sustainable development and the perception of such responsible activities at the municipal level, it is necessary to work and coordinate the implementation of national, regional and local concepts, strategies and programs for sustainable development, and to strengthen the institutional and economic capacity of the municipalities.

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