

**ORGANIZATIONAL AND LEGAL ASPECTS
OF THE REGULATION OF SOCIAL RELATIONS IN THE SPHERE
OF THE USE OF WAR WASTE FOR THE RECONSTRUCTION
OF POST-WAR UKRAINE**

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INTRODUCTION

Reconstruction of the country will require a lot of materials, and the financial resources of the state are limited. Therefore, it is necessary to apply new waste management systems. This will reduce the amount of garbage and save money. Until now, in Ukraine, they simply dismantled rubble, collected mixed garbage and took everything to landfills. Currently, city landfills are 90% full. Due to the lack of space, the removal of construction waste becomes more expensive¹. The situation worsened significantly during the war, when a large amount of mixed debris is generated, the owner of which is not identified.

In the east and south of Ukraine, where hostilities continue, the scale of destruction and waste generation is impossible to fully assess. However, O. Savytskyi notes that they will be even larger compared to other districts. Even in areas free of hostilities, spontaneous landfills in every second village and on the outskirts of cities cause air and water pollution. The rivers of the Carpathians suffer from overflowing plastic waste, which reaches neighboring countries such as Romania, Hungary and Moldova ².

The amount of demolition waste in Ukraine can already be compared with the total amount of solid household waste that is generated in the country during the year and amounts to about 10–12 million tons. The Minister of Environmental Protection and Natural Resources of Ukraine noted that a significant part of this waste can be used for the further reconstruction of the country ³.

The situation with the generation and accumulation of waste was extremely difficult even before the full-scale invasion of the Russian

¹ Що робити із уламками від війни? ReStart Ukraine, UNDP Accelerator Lab. URL: <https://restartukraine.io/wardebris-ua/>

² Савицький О. Україна зможе подолати смітцеву кризу. Що передбачає ухвалення Радюю закон? 20.06.2022. Економічна правда. URL: <https://www.epravda.com.ua/publications/2022/06/20/688345/>

³ Куди в Україні дівають відходи руйнації та що з цим сміттям буде далі. 10.02.2023. URL: <https://eco.rayon.in.ua/news/574064-kudi-v-ukraini-divayut-vidkhodiruynantsii-ta-sheho-z-tsim-smityam-bude-dali>

Federation, but now it has become catastrophic. O. Savytskyi states that millions of tons of waste have accumulated in the liberated territories as a result of the destruction of buildings and infrastructure facilities, as well as thousands of destroyed and damaged cars ⁴.

The process of rebuilding the country requires significant amounts of construction materials, which can be obtained by recycling these wastes. Therefore, it is very important to introduce new approaches to the processing and reuse of building materials, as well as to apply modern methods of disposal or disposal of waste ⁵.

Thus, the problem of contamination of the territory of Ukraine during the martial law with waste of domestic and military origin determines the need to find organizational and legal mechanisms for their processing and disposal, as well as the development of organizational and legal mechanisms for the reuse of construction materials during the reconstruction of our country. The post-war reconstruction of Ukraine, in our opinion, should be aimed at creating favorable conditions for the introduction of effective directions and technologies for the processing of war waste for the purpose of their reuse. S. Ivaniuta emphasizes that innovative solutions must be found for environmentally friendly transformation of military remnants and materials arising during reconstruction into valuable resources ⁶. The introduction of such technologies will reduce the negative impact on the environment, contribute to the creation of a sustainable and efficient economy, and ensure the sustainability of the country's development.

1. Legal regulation of the use of war waste as a resource for infrastructure restoration: domestic and foreign experience

In accordance with paragraph 2 of the decision of the National Security and Defense Council of Ukraine dated March 19, 2021 "On measures to increase the level of chemical safety in the territory of Ukraine", implemented by the Decree of the President of Ukraine No. 104 dated March 19, 2021, with the aim of harmonizing the procedure as soon as possible classification of waste with European requirements, in particular the Directive of the European Parliament and the Council 2008/98/EC on waste and the List of EU waste (List of Waste), approved by the Decision of the European Commission

⁴ Савицький О. Україна зможе подолати сміттєву кризу. Що передбачає ухвалений Радою закон? 20.06.2022. Економічна правда. URL: <https://www.epravda.com.ua/publications/2022/06/20/688345/>

⁵ Що робити із уламками від війни? ReStart Ukraine, UNDP Accelerator Lab. URL: <https://restartukraine.io/wardebris-ua/>

⁶ Іванюта С. Про організацію поводження з відходами, що утворилися внаслідок війни. Національний інститут стратегічних досліджень. URL: https://niss.gov.ua/sites/default/files/2023-03/waste-of-war_pdf.pdf

2000/532/EC, according to S. Ivanyuta, there is a need to speed up the approval of the Procedure classification of waste and the National list of waste ⁷. In the conditions of war, the development of such a classification requires taking into account the generation of a significant amount of war waste.

At present, work has begun to clean the territories of destruction waste where possible. However, in the conditions of war, our state does not have sufficient financial and technical resources to solve this problem. Thus, according to the report "Ukraine: Rapid Assessment of Damage and Needs for Recovery", 5% of garbage trucks, 17% of biogas plants, and 9% of sorting lines were destroyed and damaged in the country ⁸.

Direct losses in the field of waste management, emphasizes S. Ivaniuta, are 95.36 million dollars. In the United States, the estimated cost of removing construction waste and debris is \$320.7 million. USA, and the loss of profits of waste disposal enterprises is estimated at 11.9 million dollars. USA. Such calculations were made only for certain regions of Ukraine, including the territories of Donetsk, Luhansk, Kharkiv, Kyiv, and Chernihiv regions, but they make it possible to estimate the overall scale of potential losses in the entire territory of Ukraine ⁹.

International and European experience shows that it is possible to reduce losses by using secondary materials from destruction, destroyed objects and property of war. An example can be the reconstruction of Warsaw after the Second World War, where materials left over from the fighting were used. For example, undamaged bricks were reused, and construction waste was crushed to make concrete. This approach made it possible to reduce environmental losses and pollution through the effective use of secondary resources, and also promotes environmental sustainability and efficiency in the reconstruction process. Ukraine can also use this experience and develop its own strategies and technologies for the reuse of military waste and destruction in order to create a sustainable and efficient economy, notes S. Ivaniuta ¹⁰.

According to V. Strutynska, the situation with waste processing in Ukraine is significantly different from the countries of the European Union. In EU

⁷ Іванюта С. Про організацію поводження з відходами, що утворилися внаслідок війни. Національний інститут стратегічних досліджень. URL: https://niss.gov.ua/sites/default/files/2023-03/waste-of-war_pdf.pdf

⁸ Іванюта С. Про організацію поводження з відходами, що утворилися внаслідок війни. Національний інститут стратегічних досліджень. URL: https://niss.gov.ua/sites/default/files/2023-03/waste-of-war_pdf.pdf

⁹ Іванюта С. Про організацію поводження з відходами, що утворилися внаслідок війни. Національний інститут стратегічних досліджень. URL: https://niss.gov.ua/sites/default/files/2023-03/waste-of-war_pdf.pdf

¹⁰ Іванюта С. Про організацію поводження з відходами, що утворилися внаслідок війни. Національний інститут стратегічних досліджень. URL: https://niss.gov.ua/sites/default/files/2023-03/waste-of-war_pdf.pdf

countries, more than 60% of waste can be recycled, in particular, Sweden is the leader, where 99% of waste is recycled and used as a source of energy for heating houses and generating electricity. Some countries, such as Germany, Switzerland, Austria, also have a high level of waste recycling, where 97% of waste can be recycled and recycling companies use it as a source of energy, which brings economic and environmental benefits ¹¹. This makes it possible to save billions of liters of petroleum products. In addition to saving budget funds, such enterprises create jobs and solve environmental problems.

However, not all European countries have a similar level of waste recycling. For example, Italy, Bulgaria, Romania and the Baltic States face problems in waste management and have giant landfills, but not all waste is recyclable. Some of these countries even export their waste to countries with high recycling rates. In order for Ukraine to avoid such a negative development scenario in the field of waste disposal, it is necessary to introduce changes that take into account the peculiarities of the classification, distribution, use and disposal of war waste to the National Waste Management Strategy in Ukraine until 2030 ¹².

The problem of waste generation and management, which existed before the war, is emphasized by D.M. Tokarchuk, may not seem so important, but in fact, it was during the military operations that particularly dangerous waste began to be massively generated: unexploded shells, mines, toxic waste from destroyed industrial enterprises, unauthorized burials, etc., which pose a threat to people's lives and health ¹³. The current legislation of Ukraine does not contain the concept of "waste of war", "waste of destruction", etc.

2. Terminological aspects of defining the meaning of the concept of "waste of war" in national legislation

According to clause 3.1 of Directive 2008/98/EC of the European Parliament and of the Council of November 19, 2008 on waste and the repeal of certain Directives, the category "waste" means any substance or object that the owner disposes of, intends to dispose of or is obliged to get rid of, at the same time such groups as "hazardous waste", "bio-waste", "used oil", "by-

¹¹ Струтинська В. Тонемо!.. Проблема побутових відходів та сміттєзвалищ в Україні. URL: <https://ns-plus.com.ua/2017/08/15/tonemo-problema-pobutovyh-vidhodiv-ta-smittyezvalyshh-v-ukrayini-2/#:~:text=>

¹² Про схвалення Національної стратегії управління відходами в Україні до 2030 року. Розпорядження Кабінету Міністрів України. від 8 листопада 2017 р. № 820-р Київ. URL: <https://zakon.rada.gov.ua/laws/show/820-2017-%D1%80#Text>

¹³ Токарчук Д.М. Особливості утворення і поводження з відходами під час воєнних дій: досвід України. Економіка, фінанси, менеджмент: актуальні питання науки і практики. 2022. № 2 (60). С. 109–122. DOI: 10.37128/2411-4413-2022-2-8 С. URL: <http://efm.vsau.org/storage/articles/November2022/0uaZiCxfSag8ca4nOS9y.pdf>

products" are distinguished. According to the provisions of the said Directive, the category of waste management is understood as "the collection, transportation, utilization and elimination of waste, including the supervision of these operations and the care of burial sites" (clause 3.9) ¹⁴, effectively identifying it with the category of "waste management".

The Law of Ukraine "On Waste Management" defines waste as any substances, materials and objects that their owner gets rid of, intends or must get rid of. Waste Classifier DK 005-96 defines waste as any substances, materials and objects that are formed in the process of human activity and have no further use at the place of formation or detection and which their owner gets rid of, intends or must get rid of by disposal or removal ¹⁵. However, the Waste Classifier DK 005-96 does not provide for the category of war waste.

Zaikova L. M. proposes to understand waste as materials, objects, substances, the creation of which must be avoided, but objectively formed as a result of any human activity, the functioning of other living organisms, natural and man-made situations, which do not have their further use at the place of their formation, have lost their consumer properties, have an owner who must prevent their formation by all legal means, or get rid of them in accordance with the procedure established by law by disposal, removal or processing, in order to ensure the protection of the natural environment, the protection of human life and health, and economic benefits ¹⁶.

The problem of uncertainty also arises with such a concept as "man-made waste". V. M. Plokhyy notes that the Law of Ukraine "On Waste" defines only such categories as "household waste", "hazardous waste", "solid waste", "liquid waste", "waste as secondary raw materials", and does not establish the essence of the category "man-made waste" or "industrial waste". V. M. Plokhyy believes that the lack of a normative definition of the category of "man-made waste" ("industrial waste") makes it impossible to properly apply the rule regarding the expediency of establishing measures of legal responsibility, is an obstacle to the optimization of administrative procedures in the field of acquiring special rights to carry out operations for handling such

¹⁴ Директива № 2008/98/ЄС Європейського парламенту та Ради від 19.11.2008 р. «Про відходи та скасування деяких директив». URL: <https://menr.gov.ua/news/31288.html>

¹⁵ Державний класифікатор України. Класифікатор відходів ДК 005-96. Затверджено і введено в дію наказом Держстандарту України 29.02.1996 N 89. URL: <https://zakon.rada.gov.ua/rada/show/v0089217-96#Text>

¹⁶ Зайкова Л.М. Нормативно-правове регулювання управління безхазайними відходами в Україні. Дніпровський науковий часопис публічного управління, психології, права. 2022. Випуск 5. С. 95-100. URL: <http://chasopys-ppp.dp.ua/index.php/chasopys/article/view/311/272>. С. 97.

objects¹⁷. V. M. Plokyi draws attention to the fact that the basis of the normative definition of the relevant categorical apparatus on waste legislation of Ukraine is the material properties of such objects: "waste generated in the course of human life and activity in residential and non-residential buildings", "remains of substances, materials, objects, products, goods, products that cannot be used as intended", "household waste generated in the house in the absence of centralized water supply and sewage and stored in cesspools", etc. The application of such a criterion for the characterization of man-made waste as their material properties, according to V. M. Plokyi, it is expedient in the formation of a normative approach to establishing their essence¹⁸.

Man-made waste, notes V. M. Plokyi, unlike household waste, accumulates, as a rule, as a result of the activities of enterprises in the mining, chemical, nuclear, construction and other industries, which means the presence of relationships between the object and the subject, characterized by their essence as property relations¹⁹. In addition, man-made waste has a significantly higher cost compared to household waste. In our opinion, the waste of war will also include man-made waste that was not disposed of in time due to military actions. However, the owner of such waste can be established by contacting the business entity. Unlike stray waste.

Stray waste is subject to separate state accounting. In Art. 12 of the Law of Ukraine "On Waste" it was determined that waste that has no owner or whose owner is unknown is considered to be ownerless. If the owner of the waste is determined in accordance with the provisions of the Procedure for identifying and accounting for stray waste, approved by the Resolution of the Cabinet of Ministers of Ukraine dated 03.08.1998 No. 1217²⁰, he bears full responsibility for observing the conditions of their handling and preventing the negative impact of waste on the environment, emphasizes L. M. Zaikova. However, the Law of Ukraine "On Waste Management", which replaced the Law of Ukraine "On Waste", does not provide for such a term as "abandoned waste". Article 12 of the Law of Ukraine "On Waste Management" uses the term "waste whose owner is not established" and defines the procedure for its accounting and processing.

¹⁷ Плохий В.М. Техногенні відходи як об'єкт адміністративно-правового регулювання. Право і суспільство. № 3. 2022. С. 255-260. С. 257.

¹⁸ Плохий В.М. Техногенні відходи як об'єкт адміністративно-правового регулювання. Право і суспільство. № 3. 2022. С. 255-260. С. 258.

¹⁹ Плохий В.М. Техногенні відходи як об'єкт адміністративно-правового регулювання. Право і суспільство. № 3. 2022. С. 255-260. С. 259.

²⁰ Про затвердження Порядку виявлення та обліку безхазайних відходів. постановою Кабінету Міністрів України від 3 серпня 1998 р. N 1217. URL: <https://zakon.rada.gov.ua/laws/show/1217-98-%D0%BF#Text>

If the ownerless waste is not taken into account, then the local self-government body, on the territory of which the "spontaneous" landfill was created, is considered its owner. At the same time, it should be noted that the status "owner not established" is the result of certain procedures for its determination ²¹. Currently, this is the function of local commissions for identifying and accounting for stray waste. At the same time, at the legislative level, a specific algorithm of actions to establish the owner, certain powers of the commission are not fixed, which in practice leads to the limitation of the commission's actions only to the identification and accounting of stray waste without establishing its owner. This creates additional financial problems for local self-government bodies during the practical implementation of this provision and does not contribute to solving the issue of handling stray waste.

At the same time, Resolution of the Cabinet of Ministers of Ukraine of September 27, 2022 No. 1073 "On approval of the Procedure for handling waste generated in connection with damage (destruction) of buildings and structures as a result of hostilities, acts of terrorism, sabotage or carrying out work to eliminate their consequences and making changes to some resolutions of the Cabinet of Ministers of Ukraine" defines the list and types of such waste, as well as the procedure for handling them ²².

3. Classification of types of war waste and organizational and legal support for their processing

This procedure defines the concept of "destruction waste", which are parts (debris) of damaged (destroyed) objects, as well as materials, objects that were inside or next to such objects at the time of damage (destruction) and/or execution dismantling works and which have completely or partially lost their consumer properties and cannot be used in the future at the place of their formation or discovery. According to the origin, waste from destruction is divided into: 1) waste formed as a result of damage (destruction) of objects, – complete or partial violation of their integrity due to extra-design impacts caused by combat operations, in particular, ingress of means of destruction, explosions, fires; 2) waste generated as a result of the dismantling of damaged (ruined) objects (staged controlled partial or complete disassembly into separate elements and products or uncontrolled demolition due to collapse

²¹ Зайкова Л.М Нормативно-правове регулювання управління беззахайними відходами в Україні. Дніпровський науковий часопис публічного управління, психології, права. 2022. Випуск 5. С. 95-100. URL: <http://chasopys-ppp.dp.ua/index.php/chasopys/article/view/311/272>. С. 97

²² Про затвердження Порядку поводження з відходами, що утворились у зв'язку з пошкодженням (руйнуванням) будівель та споруд внаслідок бойових дій, терористичних актів, диверсій або проведенням робіт з ліквідації їх наслідків та внесення змін до деяких постанов Кабінету Міністрів України. Постанова Кабінету Міністрів України від 27 вересня 2022 р. № 1073. URL: <https://zakon.rada.gov.ua/laws/show/1073-2022-%D0%BF#Text>

during the use of bulldozers, a metal ball on an arrow, explosive force, etc.). Waste from destruction consists of the following components: 1) main components – parts (debris, battlements) of building structures, fillings of door and window blocks, engineering networks, sanitary and technical devices, etc.; 2) accompanying components – materials, objects that were inside or next to the object at the time of damage (destruction) or during the performance of its dismantling, in particular equipment, personal belongings, objects of use (furniture, household appliances), organic substances ²³.

D. M. Tokarchuk divides the waste generated during military operations in Ukraine into the following types according to the sources of their formation: 1) military waste: military equipment that has failed; remnants of missiles, bombs, used ammunition (conditionally safe military waste); dangerous military waste (mines, unexploded shells); household waste for the supply of troops; 2) waste from demolition and damaged buildings: construction waste that can be reused; hazardous construction waste that must be disposed of; 3) household and similar waste: humanitarian aid waste; disposable plastic dishes; toilet waste; excessive accumulation of household waste; 4) livestock waste: excessive accumulation of waste products; corpses of animals and birds; 5) waste from the destruction of industrial facilities: construction waste (safe and hazardous); destroyed equipment (metal structures, electronic equipment); 6) medical waste; 7) spontaneous burials ²⁴. According to the European approach, the first step in the waste management hierarchy is to prevent the generation of mixed waste that is difficult to process and dispose of. Such mixed waste is the waste of war, where organics are mixed with plastic, packaging, metal, glass and wood. If organic remains and dry waste are collected separately, effective and ecologically safe waste management at the local level becomes possible, emphasizes O. Savytskyi ²⁵.

The procedure for handling waste generated in connection with the damage (destruction) of buildings and structures as a result of hostilities, acts of terrorism, sabotage or carrying out work to eliminate their consequences has singled out the following types of destruction waste: concrete, bricks,

²³ Про затвердження Порядку поводження з відходами, що утворились у зв'язку з пошкодженням (руйнуванням) будівель та споруд внаслідок бойових дій, терористичних актів, диверсій або проведенням робіт з ліквідації їх наслідків та внесення змін до деяких постанов Кабінету Міністрів України. Постанова Кабінету Міністрів України від 27 вересня 2022 р. № 1073. URL: <https://zakon.rada.gov.ua/laws/show/1073-2022-%D0%BF#Text>

²⁴ Токарчук Д.М. Особливості утворення і поводження з відходами під час воєнних дій: досвід України. Економіка, фінанси, менеджмент: актуальні питання науки і практики. 2022. № 2 (60). С. 109–122. DOI: 10.37128/2411-4413-2022-2-8 С. URL: <http://efm.vsau.org/storage/articles/November2022/0uaZiCxfSag8ca4nOS9y.pdf> С. 112

²⁵ Савицький О. Україна зможе подолати смітєву кризу. Що передбачає ухвалення Радою закон? 20.06.2022. Економічна правда. URL: <https://www.epravda.com.ua/publications/2022/06/20/688345/>

facing tiles and ceramics; wood, glass and plastics; bituminous mixtures, coal tar and tarred products; metals (including their alloys); soil (including soil from contaminated sites); insulating materials and asbestos-containing building materials; construction materials, products (products) based on gypsum; mixed components of demolition waste containing hazardous substances; other mixed components of demolition waste ²⁶.

We propose to distinguish the following categories of war waste: 1) hazardous waste: unexploded shells, mines, toxic waste from destroyed industrial enterprises, unauthorized burials, military equipment that has failed; remnants of missiles, bombs, used and unused ammunition, etc.; 2) non-hazardous waste: destruction waste: waste generated as a result of damage (destruction) of objects; waste generated as a result of the dismantling of damaged (ruined) objects; household waste for military support: biowaste, food waste; household garbage accumulated and not removed due to shelling; medical waste; livestock waste, etc ²⁷.

In order to master these wastes of war, it is necessary to go through several stages: sorting, primary processing, production and use of materials from secondary resources. It makes sense to work out the universal rules for disassembling and sorting typical buildings on pilot projects. It is necessary to determine the percentage composition of waste to be disposed of and buried, optimal technologies and industrial capacity for dismantling. A mandatory condition is laboratory research that determines the mechanical properties, crushing parameters, and the level of toxicity of the main materials. Understanding these factors will allow us to apply universal approaches in the future ²⁸.

The second step after sorting is primary processing. Its essence is to radically reduce the volume of waste. These issues will require the active participation of the state in stimulating the professional dismantling market at the level of territorial communities, with the involvement of modern technologies. The third stage of processing involves the production and use of materials from secondary resources. Colossal adaptive layers of knowledge and experience have been developed in EU policy for Ukraine. E. Mkrтчan

²⁶ Перелік компонентів відходів від руйнувань та можливі шляхи їх повторного використання у будівництві, промисловості будівельних матеріалів (виробництві будівельних виробів (продукції)). Затверджено постановою Кабінету Міністрів України від 27 вересня 2022 р. № 1073. URL: <https://zakon.rada.gov.ua/laws/show/1073-2022-%D0%BF#Text>

²⁷ Потіп М.М. Правове регулювання використанні відходів війни як ресурсу для відновлення України. Нове українське право. №3. 2023. С. 106-114. DOI <https://doi.org/10.51989/NUL.2023.3.15>

²⁸ Мкртчан Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

cites an example when asphalt residues after heat treatment are used in road construction. Recycled concrete rubble is an excellent base for temporary roads. Gravel paths are created in Europe from concrete, brick and ceramic crumb ²⁹. In our case, they can be used to fill holes from explosions. The remains of wooden products are the basis for the production of heating pallets and briquettes. Plastic is used as a material for fences, garbage cans, running tracks and tennis courts.

Undoubtedly, secondary raw materials are not a full-fledged building material. But as a secondary product, it is competitive due to low cost and cheap logistics. Energy consumption during extraction of natural crushed stone is eight times higher than when obtaining it from crushed concrete. Accordingly, the cost of concrete from secondary raw materials is 25% lower than "classic". Processing a ton of glass waste allows you to save 650 kilograms of sand, 150 kilograms of soda ash, and 200 kilograms of limestone.

According to E. Mkrtchan, there is experience of domestic companies in the effective processing of demolished buildings, for example, one of them dismantled an unfinished Soviet hotel. They demolished and redid the monolithic 8-story building 250 meters long in three months. At the same time, due to the crushing of structures, almost the entire volume of crushed stone (25 thousand cubic meters) necessary for the construction of a new building was replaced ³⁰.

It should be taken into account that military waste is more difficult to dispose of than civilian waste. A significant part of them consists of a mixture of materials of different structure and origin, which are sorted in peaceful conditions before the start of dismantling. In the destroyed "Khrushchev", for example, almost one thousand of the 6.4 thousand cubes are made up of dismantled materials – glass, polymers, wood, wires. There is only 450 tons of metal there. And also – 30 tons of ceramic tiles, 15 tons of lumber, five tons of glass ³¹.

The leading countries of the world have developed a five-level hierarchy of waste management, which is based on the priority of prevention of waste generation: 1) prevention of waste generation; 2) preparation for reuse;

²⁹ Мкртчян Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

³⁰ Мкртчян Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

³¹ Мкртчян Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

3) waste processing; 4) other disposal; 5) storage at the landfill. For Ukrainian realities, Yu. Dubnevich, L. Voynich, N. Dubnevich single out the following five stages: 1) prevention of waste generation; 2) preparation for reuse; 3) waste processing; 4) other disposal; 5) storage at the landfill; 6) spontaneous landfill ³².

4. Legal regulation of the activities of local self-government bodies in the field of disposal of war waste

The sphere of waste management belongs to one of those by which the work of local authorities is evaluated. As of 2021, there were 442 cities, 825 urban-type settlements and 27,395 rural settlements in Ukraine, united in 1,469 territorial communities (136 districts), which are fully responsible for the organization of local waste management services. The cleanliness of the settlement and residents' satisfaction with the level of provision of communal services are the face of the city, town, village and directly affect the ratings of local authorities. And it is she who can change the economy and make it really efficient. All powers in the field of household waste management have been transferred to local self-government bodies as part of the decentralization process. This decision is justified by various local conditions in settlements (income level, composition of waste, type of building, availability of processing/disposal facilities, etc.). Regardless of these differences, the principles of waste management are the same and consistent with international requirements. This is, first of all, the protection of public health, environmental protection and conservation of resources³³.

According to the Ministry of Environment, the amount of such waste has already reached a scale not seen on the European continent since the Second World War. More than 325,000 tons of destroyed Russian equipment have been accumulated on the territory of Ukraine. In addition, huge volumes of waste from the destruction of residential and transport infrastructure were created, which is a new challenge for our country. According to preliminary estimates of the Ministry of Development of Communities and Territories of Ukraine, Russian troops destroyed about 6,800 residential buildings. Only in the de-occupied territories of Kyiv, Chernihiv and Sumy regions, about 15.2 billion tons of waste were generated from the destruction of buildings and structures due to the actions of the Russian Federation. More than 200,000 cars and trucks destroyed in Ukraine during hostilities are currently

³² Дубневич Ю., Войнич Л., Дубневич Н. Ієрархія управління відходами: європейська та українська моделі. Аграрна економіка, Т. 15, 2022, № 1-2. С. 53– 60. URL: <https://doi.org/10.31734/agrarecon2022.01-02.053>. С. 55-56

³³ Практичні аспекти управління відходами в Україні. Посібник / Барінов М.О., Олексієвць Л.Л., Родная Д.В., Журавель Т.В., Коломієць С.В., Козлова І. А., Пархоменко Г.П. К.: «Поліграф плюс», 2021. 118 с. С. 15

stored in specially designated places. The longer such waste remains on the territory of Ukraine, the more damage it will cause to the environment, polluting the soil, water, and air, as well as causing additional emissions of greenhouse gases, which will have a negative impact on global climate processes. At the moment, work has been started to clean the territories from destruction waste wherever possible ³⁴.

Due to the presence of a large number of ruins, debris and pollution, there is no technical possibility to remove garbage to landfills ³. In the conditions of war, our state does not have sufficient financial and technical resources to solve this problem. Thus, according to the report "Ukraine: Rapid Assessment of Damage and Needs for Recovery", 5% of garbage trucks, 17% of biogas plants, and 9% of sorting lines were destroyed and damaged in the country. Direct losses in the field of waste management – 95.36 million dollars. In the United States, the estimated cost of removing construction waste and debris is \$320.7 million. USA, and the loss of profits of waste disposal enterprises is estimated at 11.9 million dollars. USA. Such calculations were made only for certain regions of Ukraine, including the territories of Donetsk, Luhansk, Kharkiv, Kyiv, and Chernihiv regions, but they make it possible to estimate the overall scale of potential losses in the entire territory of Ukraine ³⁵.

A significant part of such waste is waste generated in connection with damage to buildings and structures as a result of hostilities and terrorist acts. The procedure for handling waste generated in connection with damage (destruction) of buildings and structures as a result of hostilities, acts of terrorism, sabotage or carrying out work to eliminate their consequences determines the mechanism of handling waste generated in connection with damage (destruction) buildings and structures, objects of unfinished construction, objects of improvement as a result of hostilities, acts of terrorism, sabotage or carrying out works to eliminate their consequences, in order to prevent and reduce the negative impact of such waste on the natural environment and human health.

Identification and accounting of waste from destruction is organized by an authorized body, which is the executive body of a village, settlement, city council (military administration of a settlement (settlements) – in the case of its formation in accordance with legislation), which organizes and coordinates the management of waste from destruction Such detection and accounting of waste from destruction is carried out based on the results of inspections of

³⁴ Іванюта С. Про організацію поводження з відходами, що утворилися внаслідок війни. 20.03.2023. Національний інститут стратегічних досліджень. URL: https://niss.gov.ua/sites/default/files/2023-03/waste-of-war_pdf.pdf

³⁵ Іванюта С. Про організацію поводження з відходами, що утворилися внаслідок війни. 20.03.2023. Національний інститут стратегічних досліджень. URL: https://niss.gov.ua/sites/default/files/2023-03/waste-of-war_pdf.pdf

damaged (destroyed) objects, consideration of applications (notifications) of citizens, enterprises, institutions and organizations, other legal entities, mass media, central executive authorities, military formations or receipt of information on the identification of waste from destruction ³⁶.

It is not possible to implement an effective waste management system for united territorial communities without scientifically based developments regarding the generation of a methodological apparatus that will provide all the modern technological characteristics of the management system of the territorial commission ³⁷.

The national strategy for waste management in Ukraine until 2030 defines certain vectors of the functioning of local self-government bodies in this direction. Thus, it is assumed that special measures in the field of household waste will be the creation by local self-government bodies in settlements with a population of more than 50,000 of specialized communal waste collection points, taking into account the area, density and population of the settlement; determination by local executive authorities and local self-government bodies, taking into account the mechanisms of their interaction and cooperation, of optimal coverage areas and locations of regional household waste management facilities (waste transfer stations, waste sorting lines, waste processing plants, landfills, etc.); preparation by local executive bodies and local self-government bodies of a priority plan for closing landfills/landfills that do not meet environmental requirements, as well as action plans for bringing landfills into compliance with environmental requirements, etc ³⁸.

The Law of Ukraine "On Waste Management" defines the role and place of local self-government bodies in waste processing. The direct powers of village, settlement, and city councils in the field of waste management are defined in Art. 26 of the Law of Ukraine "On Waste Management". According to Art. 26 of the Law of Ukraine "On Local Self-Government" the exclusive competence of village, settlement, city councils refers to the resolution at plenary meetings of the issue of granting, in accordance with the legislation, consent to the placement of new objects, including places or objects, on the territory of a village, settlement, city for waste management, the sphere of

³⁶ Про затвердження Порядку поводження з відходами, що утворились у зв'язку з пошкодженням (руйнуванням) будівель та споруд внаслідок бойових дій, терористичних актів, диверсій або проведенням робіт з ліквідації їх наслідків та внесення змін до деяких постанов Кабінету Міністрів України. Постанова Кабінету Міністрів України від 27 вересня 2022 р. № 1073. URL: <https://zakon.rada.gov.ua/laws/show/1073-2022-%D0%BF#Text> С. 182

³⁷ Пацева І.Г., Герасимчук О.Л., Кагукіна А.М. Системний підхід управління відходами об'єднаних територіальних громад. Екологічні науки № 4 (43). С. 181-184. URL: <https://doi.org/10.32846/2306-9716/2022.eco.4-43.30>

³⁸ Про схвалення Національної стратегії управління відходами в Україні до 2030 року. Розпорядження Кабінету Міністрів України. від 8 листопада 2017 р. № 820-р Київ. URL: <https://zakon.rada.gov.ua/laws/show/820-2017-%D1%80#Text>

environmental impact of which activities, according to current regulations, includes the relevant territory; solving hazardous waste management issues as part of household waste in accordance with legislation; approval of local waste management plans; definition of the administrator of the household waste management service^{39 40}.

Local self-government bodies ensure the management of household waste in accordance with the rules of improvement of the settlement, regional and local waste management plans, and provide every generator of household waste with the provision of household waste management services (Article 30)⁴¹.

According to the Laws of Ukraine "On Waste Management", "On Local Self-Government", local self-government bodies are authorized to manage non-hazardous war waste whose owner has not been established.

Community resources are limited, so it is necessary to apply new waste management systems. This will reduce the amount of garbage and save money. Until now, in Ukraine, they simply dismantled rubble, collected mixed garbage and took everything to landfills. Currently, city landfills are 90% full. Due to the lack of space, the removal of construction waste becomes more expensive⁴².

Experts of the "U-LEAD with Europe" Program provided regional communities with recommendations on handling waste from destroyed infrastructure. They suggest registering a specialized enterprise with high-tech equipment at the community level. And also to create a permanent waste management system, in particular construction and repair waste. For example, in many countries, about half of the manufactured building materials are recycled construction waste. Among the leaders: Great Britain, Denmark, the Netherlands. More than 90% of construction waste is processed there. High demand for processing stimulates attracting investment. Under such conditions, local enterprises develop in the field, new companies and, accordingly, new jobs⁴³.

Considering this, mobile crushing complexes and accompanying technological lines will be needed in almost every community affected by the war. Taking into account the destruction already recorded, we need hundreds,

³⁹ Про місцеве самоврядування : Закону України від 21 травня 1997 року № 280/97-ВР. Відомості Верховної Ради України. 1997. № 24. ст.170

⁴⁰ Практичні аспекти управління відходами в Україні. Посібник / Барінов М.О., Олексієвеш І.Л., Родная Д.В., Журавель Т.В., Коломієць С.В., Козлова І. А., Пархоменко Г.П. К.: «Поліграф плюс», 2021. 118 с. С. 18

⁴¹ Про управління відходами. Закон України від 20 червня 2022 року № 2320-IX. URL: <https://zakon.rada.gov.ua/laws/show/2320-20#n802>

⁴² Що робити із уламками від війни? ReStart Ukraine,UNDP Accelerator Lab. URL: <https://restartukraine.io/wardebris-ua/>

⁴³ Що робити із уламками від війни? ReStart Ukraine,UNDP Accelerator Lab. URL: <https://restartukraine.io/wardebris-ua/>

and perhaps thousands of units of appropriate equipment 12. These factors allow the government to conduct negotiations with the largest global players about the transit of technologies to Ukraine and investment in production, emphasizes E. Mkrтчan. It is possible to talk with manufacturers and international donors about the start of leasing, investment and credit programs adapted to the needs of territorial communities ⁴⁴.

The government has already established a clear algorithm of what and how to do with such waste. Therefore, it is important that the regions properly organize this work. For example, Kyiv Oblast was the first to pilot the implementation of the procedure for handling demolition waste approved by the Cabinet of Ministers. The Kyiv Regional Military Administration has set up 62 temporary sites for the storage of such waste. Currently, 48 of them are used. 144 thousand tons of war waste have already been placed here. The mechanism works as follows: communities take demolition waste to temporary storage sites, where they are further sorted, hazardous, construction waste, etc. are separated. Construction waste is crushed for reuse ⁴⁵. But there are still many unresolved issues. There is a need to implement best practices in other territorial communities as well.

Clearing the country of ruins will be the largest component of the country's post-war reconstruction. We will have to rid thousands of hectares of millions of cubic meters of construction waste. In the next few years, these "cubes" will have to be processed and disposed of safely. So that the process does not drag on for tens of years, it is already necessary today to optimize the legislation on waste management, to attract investment projects and technological innovations, to prepare universal business models that are adaptable to the needs of local communities burned by the war ⁴⁶.

According to UN estimates, as of October 2022, more than 100,000 houses have been destroyed or critically damaged by the war in Ukraine. The scope of the future dismantling can be imagined considering the calculations of the demolition of the five-story "Khrushchev" project into four entrances. After dismantling such a building, 6.4 thousand cubic meters of waste remains in the dry residue. 100,000 conditional "Khrushchevs" are ground into

⁴⁴ Мкртчан Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

⁴⁵ Куди в Україні дівають відходи руйнації та що з цим сміттям буде далі. 10.02.2023. URL: <https://eco.rayon.in.ua/news/574064-kudi-v-ukraini-divayut-vidkhodiruynatssii-ta-shcho-z-tsim-smittiyam-bude-dali>

⁴⁶ Мкртчан Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

640 million tons, respectively⁴⁷. This indicator is 3.5 annual norms of European construction waste. According to the European Demolition Association, 180 million tons of construction waste is generated in Europe every year. This is more than two thousand times higher than the annual figure of pre-war Kyiv (300 thousand tons). In spatial terms, this amount is 320 destroyed cities of the level of Buchi, where there are more than 2 million tons of rubble to be dismantled.

It is necessary to document the types of waste that are unsuitable for processing, subject to storage and environmentally safe disposal. And also introduce regulations regarding the prohibition or limitation of waste disposal, which in principle can be recycled. Organizations engaged in dismantling, recycling and related logistics must account for every cubic meter that is prohibited or converted into secondary raw materials⁴⁸.

Ukrainian scale requires colossal financial, human and technological resources. The situation is complicated by the fact that Ukraine has no tradition of deep processing of construction waste. Its level is proportional to the recycling rate of solid household waste, which is 6% of the total amount⁴⁹.

In EU countries, the rate of reuse of construction waste is approaching 90%. This is the level in the Netherlands. In Belgium – 87%, in Denmark – 81%. This is the result of the EU policy, which considers methods of banning and strict restrictions on disposal to landfills as incentives for technological development. In the Netherlands, since 1997, it has been prohibited to bury any construction waste that can be recycled. In the EU, a closed cycle of dismantling, sorting, recycling and production of secondary materials has been created. Only a small part can be taken to landfills. This approach allows solving environmental and economic problems. New landfills are not needed, jobs are created, consumers receive quality goods and services. The task of Ukraine in the coming years is to get closer to European standards for the processing of construction waste. There is a critical shortage of landfills. Their area in Ukraine already reaches the territory of Belgium. Garbage must be processed and reused. The alternative is large-scale environmental disasters⁵⁰.

⁴⁷ Мкртчян Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

⁴⁸ Мкртчян Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

⁴⁹ Мкртчян Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

⁵⁰ Мкртчян Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viyna-ukrayini-yak-organizuvati-vidbudovu_n2220396

It should be taken into account that military waste is more difficult to dispose of than civilian waste. A significant part of them consists of a mixture of materials of different structure and origin, which are sorted in peaceful conditions before the start of dismantling. In "Khrushchev", for example, almost one thousand out of 6.4 thousand cubes are dismantled materials – glass, polymers, wood, wires. There is only 450 tons of metal there. And also – 30 tons of ceramic tiles, 15 tons of lumber, five tons of glass. Sorting is the most time– and effort-consuming stage of "remelting" ruins into secondary raw materials. In our conditions, millions of tons will have to be sorted almost by hand, because the ruins may contain unexploded ammunition, planted explosives or fragments of bodies. Based on this, government programs will be needed to stimulate the recruitment of human resources, in particular, motivated volunteerism and labor mobilization⁵¹.

5. Informational and legal provision of war waste management

To date, the following problems in the field of waste management remain unresolved: there is no free access of citizens to information about the state of the environment, existing environmental risks/threats in the field of waste management, and the absence of a unified digital geo-information infrastructure of state authorities and local self-government bodies to fulfill their powers in the field environmental protection related to waste management. In addition, non-transparent and financially burdensome procedures for the provision of administrative services in the field of waste management. So today, obtaining administrative services in the field of waste management is actually carried out in paper form, in connection with which, the business spends significant time and financial resources. Thus, the minimum expenses of business entities, which as of July 29, 2022, have 211 licensees, for obtaining administrative services on licensing business activities in the field of hazardous waste management in paper form, amount to about 300,000 hryvnias per year. In addition, when the licensing body examines documents in paper form, there are risks of receiving a decision to refuse to issue an administrative service due to technical errors and inaccuracies in the information. Such risks could possibly be avoided if there was an information interaction between the Ministry of Environment and such electronic information resources or systems as: the Unified State Register of Legal Entities, Individuals – Entrepreneurs, and Public Organizations, the

⁵¹ Мкртчян Е. Військовий "trash": як очистити Україну від руїн "руського міра" URL: https://24tv.ua/viy-na-ukrayini-yak-organizuvati-vidbudovu_n2220396. 19 грудня 2022. URL: https://24tv.ua/viy-na-ukrayini-yak-organizuvati-vidbudovu_n2220396

State Register of Real Property Rights, the Unified State Electronic System of Permits, Unified Register of Environmental Impact Assessment, etc ⁵².

The national strategy of waste management in Ukraine until 2030 pays considerable attention to the improvement of the mechanism of information provision of waste management. This concept envisages the provision of the following elements of the waste management information support mechanism: 1) conducting a national information and educational campaign with the aim of raising the level of awareness to ensure the awareness of key stakeholders of a sustainable household waste management system, its advantages and their necessary contribution to the system; 2) creation of a waste management information system, which will include information on the nomenclature and amount of waste generated, processed, disposed of, and removed, as well as business entities that collect, transport, reuse, recycle, dispose of, and remove waste; 3) introduction of such registers as the national register of objects of formation, implementation of operations in the field of waste management, the best available waste management technologies; the state register of waste and secondary resources generated and accumulated in Ukraine; the national register of sources of waste generation, capacities in the field of waste management using the best available technologies; the state register, in which manufacturers of electrical and electronic equipment and others must be registered ⁵³.

According to Directive 2008/98/EC of the European Parliament and the Council of November 19, 2008 on waste and on the repeal of certain directives, the issue of information support for waste management plays a key role. Thus, this Directive provides for the main elements of the waste management information support mechanism ⁵⁴.

Waste management plans must contain, in appropriate cases and taking into account the geographical level and the territory covered by the plan, the following list of information: 1) type, amount and source of waste generated within the relevant territory; waste that is likely to be transported from or to the national territory and a forecast estimate of the generation of waste streams in the future; 2) existing major waste disposal and recovery facilities, including any special facilities for used oil, hazardous waste, waste containing

⁵² Аналіз регуляторного впливу до проекту постанови Кабінету Міністрів України «Про затвердження порядку створення та адміністрування інформаційної системи управління відходами». URL: <https://mepr.gov.ua/?s>

⁵³ Про схвалення Національної стратегії управління відходами в Україні до 2030 року. Розпорядження Кабінету Міністрів України. від 8 листопада 2017 р. № 820-р. URL: <https://zakon.rada.gov.ua/laws/show/820-2017-%D1%80#Text>

⁵⁴ Директива Європейського Парламенту і Ради 2008/98/ЄС від 19 листопада 2008 року про відходи та про скасування деяких директив. URL: https://zakon.rada.gov.ua/laws/show/984_029-08#Text

a significant amount of critical raw materials, or waste streams regulated by special Union legislation; 3) assessment of the need to close existing waste management facilities; 4) assessment of existing waste collection schemes, including coverage of materials and territories by separate collection and measures to improve its functioning; 5) sufficient information on location criteria for facility identification and capacity of future disposal facilities or major waste recovery facilities, if necessary; 6) general waste management policies, including planned waste management technologies and methods, or waste management policies that pose specific problems; 7) measures to combat and prevent all forms of littering, as well as clean up all types of litter; 8) relevant qualitative or quantitative indicators and targets, including regarding the amount of generated waste and its treatment and regarding municipal waste removed or subjected to energy recovery operations⁵⁵. Thus, waste management plans contain a wide list of information submitted to registers by economic entities, created as a result of waste monitoring, and summarized by waste management entities. Thus, the efficiency of waste management directly depends on its quality information support.

Waste management is not only about meeting the standards of sustainable development and caring for the environment, it is also about solving the problem of reusing construction materials in a country where there is a war, expensive overcrowded landfills, that is, there are questions of economic benefit.

The scale of the destruction in Ukraine requires modern methods of disposal or disposal of waste, optimization of processing of materials with their subsequent use in reconstruction 2. The conditions for the implementation of effective management in the field of waste are high-quality information support for this activity.

First of all, it is worth mentioning the online service of public services "Diya". As early as the first months of the full-scale war, the system introduced a feature that allowed citizens to report damage or destruction to their property. It is also worth mentioning the "Russia will pay" and "Map of Destruction" projects. The feature of the latter is open data. Everyone can both declare destruction and view information about other objects (location, "before" and "after" photos)⁵⁶.

Today, information about the environmental consequences of the war in Ukraine can be partially obtained from official sources – the Ministry of

⁵⁵ Директива Європейського Парламенту і Ради 2008/98/ЄС від 19 листопада 2008 року про відходи та про скасування деяких директив. URL: https://zakon.rada.gov.ua/laws/show/984_029-08#Text

⁵⁶ Що робити із уламками від війни? ReStart Ukraine, UNDP Accelerator Lab. URL: <https://restartukraine.io/wardebris-ua/>

Environmental Protection and Natural Resources of Ukraine ⁵⁷; the human rights organization "Ecology, Law, Man", which since 1994 defends environmental rights, carries out activities in the field of environmental protection, maintenance, restoration and improvement of its condition and provides legal assistance in the protection of other, primarily related to environmental, human rights ⁵⁸; the public organization "Ekodiya", which unites experts and activists around the idea of preserving the environment through influence on decision-making by the authorities⁵⁹; Telegram channel UA War Infographics, etc ⁶⁰. At the same time, this information is informational and analytical in nature and is not official or such that can be used in the implementation of waste management in accordance with current legislation.

Nowadays, online platforms for the sale of recovered materials are appearing more and more often. These are Werflink, BREMAP, SalvoMIE, Opalis, LoopFront, Sirken. Sometimes these platforms help to share materials and even give them away for free. For example, if we are talking about elements that have good potential for reuse, but have no economic value. At the same time, this is only scattered information about waste, which is not of an official nature and cannot be systematically used by business entities in the field of waste management and waste management entities. Therefore, one of the vectors of reforming the sphere of waste management is the improvement of information provision of waste management entities ⁶¹.

In order to successfully deal with the problems of destruction and contamination, it is important to have a clear idea of what we are dealing with. Therefore, today it is necessary to start registering and mapping all cases of destruction and pollution. Ukraine is already implementing several innovative projects and online platforms that help track the scale of destruction and stimulate fundraising for recovery funds ⁶². Analysis of the received data on destruction and pollution will help to plan further sorting, processing, utilization or disposal of materials.

To detect destruction, it is advisable to use satellite images and artificial neural networks. In particular, a group of photogrammetry scientists from

⁵⁷ Офіційний сайт Міністерства захисту довкілля та природних ресурсів України. URL: <https://mepr.gov.ua/>

⁵⁸ Екологія, право, людина: офіційний сайт. URL: <http://epi.org.ua/pronas/>

⁵⁹ Екодія – Центр екологічних ініціатив: офіційний сайт. URL: <https://ecoaction.org.ua/>

⁶⁰ Телеграм-канал UA War Infographics. URL: <https://t.me/uawarinfographics>

⁶¹ Блінова Г.О. Правове регулювання ведення реєстру об'єктів утворення, оброблення та утилізації відходів. Нове українське право. № 3. 2023. С. 62-67. DOI <https://doi.org/10.51989/NUL.2023.3.9>

⁶² Що робити із уламками від війни? ReStart Ukraine, UNDP Accelerator Lab. URL: <https://restartukraine.io/wardebris-ua/>

Tokyo is studying satellite images for building damage mapping. Their experience can be valuable for Ukraine ⁶³.

It is obvious that destruction or pollution is not homogeneous. Some areas of the cities suffered more, some less. Depending on the scale and concentration of the damage, it is worth organizing the sorting and recovery of materials directly on the spot, or creating separate centers common to several objects or districts for this purpose ⁶⁴.

The scope and importance of improving the mechanism of information support for waste management is evidenced by the measures in this area provided by the strategy at three stages of its implementation: the first – 2017–2018, the second – 2019–2023, the third – 2024–2030 ⁶⁵.

Legal regulation of waste management information support is carried out in accordance with the following legal acts: Directive 2008/98/EC of the European Parliament and Council of November 19, 2008 on waste and on the repeal of certain directives; Laws of Ukraine "On Information", "On Access to Public Information", "On Protection of Personal Data", "On Electronic Communications", "On Waste Management" and other laws, as well as Decrees of the Cabinet of Ministers of Ukraine of November 8, 2017 No. 820-r "On the approval of the National Waste Management Strategy in Ukraine until 2030"; dated February 20, 2019 No. 117 "On approval of the National Waste Management Plan until 2030", Resolution of the Cabinet of Ministers of Ukraine dated September 27, 2022 No. 1073 "On approval of the Procedure for handling waste generated in connection with damage (destruction) of buildings and structures as a result of hostilities, acts of terrorism, sabotage or carrying out work to eliminate their consequences and making changes to some resolutions of the Cabinet of Ministers of Ukraine" and others. However, these documents do not define the concept of information support for waste management, although they define the vectors of its development, legal regulation and certain aspects of the functioning of the elements of this mechanism ⁶⁶.

Currently, the regulatory and legal acts provide that the waste information provision mechanism includes such databases and registers as: 1) the state

⁶³ Що робити із уламками від війни? ReStart Ukraine, UNDP Accelerator Lab. URL: <https://restartukraine.io/wardebris-ua/>

⁶⁴ Що робити із уламками від війни? ReStart Ukraine, UNDP Accelerator Lab. URL: <https://restartukraine.io/wardebris-ua/>

⁶⁵ Про схвалення Національної стратегії управління відходами в Україні до 2030 року. Розпорядження Кабінету Міністрів України. від 8 листопада 2017 р. № 820-р. URL: <https://zakon.rada.gov.ua/laws/show/820-2017-%D1%80#Text>

⁶⁶ Блінова Г.О. Інформаційно-правове забезпечення механізму поводження з відходами війни. Юридичний науковий електронний журнал. №7. 2023. С. 93-99. DOI <https://doi.org/10.32782/2524-0374/2023-7/20>

register of waste and secondary resources generated and accumulated in Ukraine; 2) the national register of sources of waste generation, capacities in the field of waste management using the best available technologies; 3) register of business entities that are required to submit waste declarations; 4) register of permits for waste processing operations; 5) the register of licenses for the implementation of economic activities for the management of hazardous waste; 6) register of written consents (notifications) for cross-border transportation of hazardous waste; 7) register of conclusions on cross-border waste transportation of the Green List of waste; 8) register of producers of individual goods; 9) register of organizations of extended producer responsibility; 10) register of by-products; 11) register of termination of waste status; 12) register of business entities for collection and storage operations; 13) register of business entities for waste transportation operations, other registers. The following are also important elements of the mechanism of information provision of waste management: 1) information system of waste management; 2) a single universal web portal of information resources on the multiple use of natural resources and waste processing and disposal; 3) electronic information logistics scheme for handling natural resources (extracting them, obtaining useful products from them, generating waste that is processed and disposed of); 4) an information system for providing electronic reporting by business entities that conduct activities in the field of waste management; 5) electronic offices of a business entity, an employee of the Ministry of Environment, the State Environmental Inspectorate, a regional state administration, a local self-government body, etc ⁶⁷.

Taking into account the provisions of the specified legal acts, it can be concluded that in terms of legal regulation of information support for waste management, the following legal acts need to be developed and adopted: 1) regulations on the electronic information logistics scheme of extraction and use of natural resources and waste management; 2) provisions on the National Register of objects of formation, implementation of operations in the field of waste management, the best available waste management technologies; 3) provisions on the information system for reporting by business entities regarding activities in the field of waste management; 4) resolution of the Cabinet of Ministers of Ukraine "On approval of the Procedure for the creation and administration of the waste management information system" and others⁶⁸.

⁶⁷ Блінова Г.О. Інформаційно-правове забезпечення механізму поводження з відходами війни. Юридичний науковий електронний журнал. №7. 2023. С. 93-99. DOI <https://doi.org/10.32782/2524-0374/2023-7/20>

⁶⁸ Блінова Г.О. Інформаційна систем управління відходами : сучасний стан правового регулювання та перспективи. Юридичний бюлетень. №29. 2023. С. 45-54. DOI <https://doi.org/10.32850/LB2414-4207.2023.29.05>

CONCLUSIONS

The lack of a normative definition of the category "waste of war" makes it impossible to properly apply the rule regarding the expediency of establishing measures of legal responsibility for the lack of actions of the owners of such waste or local self-government bodies regarding utilization, removal or processing. Therefore, it is necessary to supplement Art. 1 of the Law of Ukraine "On waste management with the concept of "waste of war". Under this concept, we propose to define any substances, materials or objects formed in the process of human activity in the territories where hostilities were conducted or are being conducted, which have completely or partially lost their consumer properties, cannot be used in the future at the place of their formation or detection and must be disposed of, removed or processed, in order to ensure the protection of the natural environment, the protection of life and health of people and economic benefit when they are reused.

After making the appropriate changes to the Law of Ukraine "On Waste Management", there will be a justified need to adopt a resolution of the Cabinet of Ministers of Ukraine "On the procedure for handling war waste" taking into account the provisions of the resolution of the Cabinet of Ministers of Ukraine "Procedure for handling waste generated in connection with damage (destruction) of buildings and structures as a result of hostilities, acts of terrorism, sabotage or carrying out works to eliminate their consequences and making changes to some resolutions of the Cabinet of Ministers of Ukraine". The implementation of such a proposal will allow to cover other types of war waste in addition to waste generated in connection with the damage and destruction of buildings and structures as a result of hostilities, acts of terrorism, and sabotage. There is also a need to expand the list and specify actions regarding the processing and disposal of various types of war waste, the distribution of rights and responsibilities of the owners of such waste, state authorities and local self-government bodies.

It is necessary to make changes to the National Waste Management Strategy in Ukraine until 2030, which was adopted in 2017 before the start of the war, taking into account the peculiarities of the classification, distribution, use and disposal of war waste, the powers of state authorities and local self-government bodies in this area. In the national waste classifier, it is also necessary to provide for the following categories of war waste: 1) hazardous waste: unexploded shells, mines, toxic waste from destroyed industrial enterprises, unauthorized burials, military equipment that has failed; remnants of missiles, bombs, used and unused ammunition, etc.; 2) non-hazardous waste: destruction waste: waste generated as a result of damage (destruction) of objects; waste generated as a result of the dismantling of damaged (ruined) objects; household waste for military support: biowaste, food waste;

household garbage accumulated and not removed due to shelling; medical waste; livestock waste, etc.

Before the implementation of programs to clean up the country from ruins, it is necessary to legally approve, in addition to the mechanism for the disposal and reuse of destruction waste, also other types of war waste and specify the powers of local self-government bodies in this process regarding the disposal of war waste that is not dangerous and has no owners. To do this, the following changes should be made to the legislation: 1) develop changes to the National Waste Management Strategy in Ukraine until 2030 to determine strategic issues in the field of war waste disposal and the role of local self-government bodies in this; 2) supplement the Law of Ukraine "On Waste Management" with the concept of war waste and its categories, the powers of all public authorities regarding the disposal of war waste, demarcate the competences of the Ministry of Defense of Ukraine with regard to explosives-contaminated land and the procedure for transferring such land to the use of local self-government bodies after their cleaning; 3) to supplement the Law of Ukraine "On Local Self-Government" with the authority to manage waste of war and cooperation with the Ministry of Defense of Ukraine, subjects conducting land monitoring and land rehabilitation.

Taking into account the highlighted concepts and features of information provision of various industries, we consider it necessary to formulate information provision of waste management as a complex of normative-legal, organizational-management, scientific-technical and other measures that are implemented in the process of information activities of economic entities, state authorities, local self-government bodies, waste management entities for the creation, use, research, storage, protection, transmission, processing of information about waste in relevant registers, information systems, networks in order to ensure effective prevention of waste generation, preparation for reuse, recycling, recovery, deletion. We suggest enshrining the formulated concept in Article 1 of the Law of Ukraine "On Waste Management".

SUMMARY

The section defines the concept of war waste, distinguishes its types, considers the possibilities of reducing the volume of their formation and increasing the efficiency of secondary use and disposal, use for the reconstruction of the country, and formulation of proposals for making relevant changes in the legislation of Ukraine. It is proposed to supplement Art. 1 of the Law of Ukraine "On Waste Management" with the concept of "waste of war". The importance of making changes that take into account the peculiarities of the classification, distribution, use and disposal of war waste, the powers of state authorities and local self-government bodies in this area to

the National Waste Management Strategy in Ukraine until 2030, which was adopted in 2017 before the start of the war, has been proven. The need to adopt normative legal acts regulating the procedure for managing war waste is substantiated. Issues related to the powers of local self-government bodies regarding waste management in the context of the new Law of Ukraine "On Waste Management" are considered, as well as scientific approaches to understanding the processes of legal regulation of waste management in peacetime and the possibility of their use during war and post-war reconstruction of Ukraine, implementation of technologies to reduce the negative impact of waste on the environment. The sphere of waste management belongs to one of those by which the work of local authorities is evaluated. The types of littering and contamination of territories with waste of war, the extent of damage caused in the territories of united territorial communities are investigated. It is proposed to make the following changes to the legislation: develop changes to the National Waste Management Strategy in Ukraine until 2030 to determine strategic issues in the field of war waste disposal and the role of local self-government bodies in this; the powers of all subjects of public authority regarding the disposal of war waste; to supplement the Law of Ukraine "On Local Self-Government" with powers regarding the management of war waste and interaction with the Ministry of Defense of Ukraine, subjects conducting land monitoring and land rehabilitation. It was found that in terms of legal regulation of information support for waste management, the following normative legal acts need to be developed and adopted: provisions on the electronic information logistics scheme for extraction and use of natural resources and waste management; regulations on the National Register of objects of formation, the implementation of operations in the field of waste management, the best available waste management technologies; provisions on the information system for reporting by business entities regarding activities in the field of waste management; resolution of the Cabinet of Ministers of Ukraine "On approval of the Procedure for the creation and administration of the waste management information system" and others.

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