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LEGISLATIVE AND ADMINISTRATIVE APPROACHES
TO HOUSEHOLD SOLID WASTE MANAGEMENT

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Abstract. The evolution and content of the Ukrainian Laws “On Waste”, “On Strategic Ecological Valuation”, “On Waste Management” as key documents of the national legislative base regarding the treatment and management of waste, including household, on the subject of their ability to provide administration solutions to growing problems in the specified field of activity are investigated. In particular, it is established that the evolution of the title of the executive power central body (CBEP) in the current Law of Ukraine “On Waste”, which is at present the main one in Ukraine regarding household waste (HW) management, has proceeded from rather specific to quite blurred parallel to the significant increase of problems in the sphere of HW treatment, specific sources of funding of the above-mentioned treatment have not been prescribed at the state level. In the procedure of strategic ecological valuation (SEV) of the state planning documents (SPD), a large number of authorities at all stages of customer valuation (executive power body, local government) and non-availability of participation of the rest of SEV individuals (executive power central bodies (CBEP), regional state administration (RSA), public) at the final stages, particularly, at such important one as monitoring the consequences SPD execution for the environment and public health is determined. The dependence of the flow depth of HW processing from financing and implementation of regional and local waste management plans is proved. Schemes of management and HW treatment are given, and their functioning, in particular, the essence of HW management, is investigated. It is established that at this stage of the country's life for the next seven years, there are no necessary sources for funding the investment programs in HW management. Therefore, it is reasonable to attract budget funds, contributions from investors and grants from the countries of the European Union and the world. The ways to solve the problems in waste management are proposed.

Keywords: solid household waste, waste management, waste treatment, strategic ecological valuation, state planning document.

1. Introduction

In general, waste treatment is defined by the Law of Ukraine “On Waste” (Pro vidkhody, 1998) (hereinafter – the Law), and starting from July 2023, waste management will be regulated by the new framework of the Law of Ukraine “On Waste Management” (Pro upravlinnya vidkhodamy, 2022) (hereinafter – the new Law).

It should be noted that the problem of waste management, including solid household waste (SHW), remains unresolved in Ukraine. Unlike European countries, Ukraine has a very low level of SHW processing and utilization and a high rate of their disposal in landfills (On the main fundamentals (strategies) of the state ecology policy of Ukraine for the period till 2030, 2019). In 95 % of cases, all of them go to landfills or rubbish dumps (On recommendations of parliamentary audition on “Priorities of ecology policy of Verkhovna Rada of Ukraine for the next five years”, 2020). A significant share of landfills is overloaded and does not correspond to environmental and sanitary standards. The accumulation of waste causes enormous environmental, economic and social damage and reduces the potential of the state's environmental sustainability (Samoylov O., 2020).

The reasons for the growth of the above-mentioned problems are insufficient funding from the state and local budgets for environmental protection measures and their financing on a residual basis, the introduction of environmentally safe, resource- and

energy-saving technologies, the development of renewable energy sources, non-material natural resource usage are unsystematical and slow (About basic principles (strategies) of the state environmental policy of Ukraine for the period until 2030, 2019).

Therefore, the objective of the investigation is to carry out a comparative analysis of key documents of the national legislative base regarding the treatment and management of waste, including household waste, on the subject of their ability to solve problems in the specified field of activity.

2. Theoretical part

At present, significant changes are taking place in Ukrainian legislation caused by the introduction of provisions of the Association Agreement between Ukraine and the European Union in terms of environmental protection as the priority area of cooperation and as the result of the reform of local government in Ukraine (Mel'nyk Obiyukh, 2019).

In order to ensure the solution to this problem in Ukraine, the appropriate legislative framework has been adopted. Its key documents are the Laws of Ukraine "On Waste", "On Basic Principles (strategies) of the State Environmental Policy of Ukraine for the Period until 2030", "On Strategic Ecological Valuation", "On Waste Management", and several subordinate acts.

From the author's point of view, changes made in the legislative base, their evolution, in particular, the Laws of Ukraine "On Waste", "On Strategic Ecological Valuation", "On Waste Management", and, in some cases, their content, are a clear reflection of the process of the sharp increase of the problems in this field of the national economy, the failure of their solution.

In the current Law of Ukraine "On Waste", the evolution of the change of CBEP title, which is responsible for the HW treatment, for 15 years (1998–2012) is investigated. During the investigation of the effectiveness of procedures for determining, describing and evaluating the consequences of the implementation of

state planning documents, introduced by the Law of Ukraine "On Strategic Ecological Valuation", tabular method, where powers of SEV individuals reflected in the section of each evaluation stage is applied. It makes it possible to note the main disadvantages of the valuation procedure itself, which should be eliminated.

A comparative structural and article analysis of the new framework Law of Ukraine "On Waste Management" and the Law "On Waste" that terminates its functioning, was carried out. The results were reflected in a table which makes it possible to see what is emphasised in the new Law, in particular, regarding the extended responsibility of product manufacturers.

The municipal scheme of HW management and the current scheme for HW treatment are structurally represented in figures, and the advantages of the first one regarding better manageability of the HW management process are investigated.

Scientists V. Yureskul, M. Shchuryk, O. Nadruga, A. Serdyuk, G. Zhuk, E. Nikitin, A. Smikhula and others investigated the issue of household waste treatment.

3. Results and Discussion

As the problems of waste management, including solid household waste, are still unsolved, it is interesting to observe the Law "On Waste", which is a key one from a legislative point of view for the evolution (dynamics) of the change in the responsibility of the central body of executive power, which is reflected in the change of its name. The blurring of responsibility and transferring it to others is observed. Research on the evolution of the name change of the CBEP was conducted, which is the main one in the state for solving the issue of waste management, including household waste, from 1998 to 2012. In general, according to the specified period of 15 years in Ukraine, there was a significant increase in these problems in the field of waste management, especially SHW. The data on the research of the specified evolution are shown in Table 1.

Table 1

The data of the research of the specified evolution

No.	Name of the Ukrainian law (UL), his No, data	Data regarding publication in the information of the Ukrainian Verkhovna Rada of (UVR)	Name of the central body of executive power (CBEP)
1.	UL "On Waste" No. 187/98 – VR of 05.03.1998	1998, No. 36–37, p. 242	Ministry of Environmental Protection and Nuclear Safety
2.	UL No 3073 – III of 07.03.2002	2002, No. 31, p. 214	Specially authorized central body of executive power in waste management
3.	UL No 1825 – VI of 21.01.2010	2010, No. 10, p. 107	Specially authorized central body of executive power in environmental protection
4.	UL No 5456 – VI of 16.10.2012	2013, No. 46, p. 640	The central body of executive power, which ensures the formation of state policy in environmental protection

In general, we observe the evolution of the title of CBEP from a rather specific one in 2002 (specially authorized CBEP in the field of waste management) to a quite blurred one in 2012 (CBEP, which ensures the formation of state policy in environmental protection), where it is not clear, and who is in the state, in addition to forming, is engaged in the realization of state policy in the field of environmental protection, including waste management.

In our opinion, the evolution of the title change of CBEP is extrapolated, i.e. it corresponds to the change of responsibility of the Ministry of natural resources (now the Ministry of the environment) in the Ukrainian Law “On Waste”. Who plays the key role in waste management relations in the state?

Points (b) and (g) of Article 3, “Tasks of waste legislation” of the Law “On Waste” set the main tasks, in particular, the determination of the basic conditions for ecologically safe waste management, ensuring the prevention of harmful effects of waste on the environment and human health.

However, Article 5, “Basic principles and directions of state policy in of waste treatment”, of the specified Law only provides for the facilitation of this. In Part 1, one of the main principles is also the priority protection of the natural environment and human health from the negative impact of waste, in the main directions regarding the implementation of the principles (Part 2), which are key in the creation of infrastructure facilities regarding treatment (point h)), waste utilization through direct reuse or alternative use of resource-valuable waste (point d)), involvement of non-state investments and other off-budget sources of financing (point l))

That is, at the state level, these directions and sources of their financing are not realized, though, in general, the realization of state policy in the field of waste management is entrusted to the newly created Ministry of the environment (Deyaki pytannya Ministerstva zakhystu dovkillya ta pryrodnykh resursiv, 2020; Struchok., 2021).

Let us carry out the investigation of the Ukrainian Law “On Strategic Ecological Valuation” (hereinafter – the Law) regarding the effectiveness of the procedure for determining, describing and evaluating consequences execution of state planning documents for the environment, public health.

In the Law, the term “state planning documents” (SPD) means the following types of documents:

– strategies, plans, schemes that determine intentions, what the documentation customer wants to achieve;

– city planning documentation;
– programs (national, targeted and other), program documents and changes to them, which make it possible to execute documents of intent, to finance the necessary measures regarding prevention, reduction and mitigation of possible negative consequences for the environment and public health.

Subjects of strategic ecological valuation (SEV) defined by the Law are: 1) customer (body of executive power (BEP), body of local authorities (BLA), 2) central body of executive power (CBEP), which realizes state policy in environmental protection – the Ministry of the environment, 3) CBEP, which implements the state policy in health care – the Ministry of health (MH), 4) regional, Kyiv city state administrations – RSA, 5) public.

Stages of SEV are defined as follows: 1) determination of the scope of SEV; 2) drawing up a report on SEV; 3) carrying out public discussion and consultations; 4) taking into account the SEV report, the results of public discussion and consultations (with CBEP, RSA); 5) notification of approval SPD; 6) monitoring the consequences of the carrying-out SPD for the environment, including for the health of the population.

In order to research the effectiveness of the SEV SPD procedure let's break down the powers of SEV subjects according to the stages of SEV and present them in Table 2.

It should be noted that BEP or LAB is defined as the customer of SEV, or other legally defined customer of documents.

Table 2 clearly shows the large scope of powers at all SEV stages of the SEV customer and a much smaller amount of powers of other subjects of the SEV – the CBEP, RSA and the public. In particular, it should be noted that in the application for determining the scope of the SEV, the customer indicates conditions for the realization of activities or objects, probable consequences for the environment and public health, justified alternatives, research that needs to be done, prevention measures, reduction of negative consequences for SPD execution. In the absence of written comments and suggestions within 15 days from the CBEP, RSA independently determines the scope of the research and the level of the information detailing for the SEV report and writes a non-technical resume of the information intended for the public, establishes the period for public discussion of the specified application.

Table 2

Research of the subjects powers of the SPD SEV

No.	Subjects SEV	Customer (body of executive power, local authorities body)	CBEP in the field of environmental protection (EP)	CBEP in the field of health care (HC)	Regional, Kyiv city state administrations (relevant units on issues EP and HC)	Public (one or more physical or legal entities)
	The name of the SEV stage					
1	2	3	4	5	6	7
1	Determination of the scope of SEV	Submits an application for determining the scope of the SEV, in which it indicates, in particular, conditions for the realization of activities or objects, probable consequences for the environment, public health, justified alternatives, research that needs to be done, prevention measures, reduction of negative consequences. In the absence of written comments and suggestions within 15 days from the date of applications submission on the determination of the SEV scope from the CBEP, RSA independently determines the scope of the research, the level of informations detailing, which to be included in the SEV report	Provides comments and suggestions to the application on determining the scope of SEV of the SPD project at the national level	Provides comments and suggestions to the application on determining the scope of SEV of the SPD project at the national level	Provides comments and suggestions to the application on determining the scope of SEV of the SPD project local and regional levels	
2	Drawing up a report on SEV	Ensures the preparation of a report on the SEV after taking into account comments and suggestions, received in the process of public discussion application for determining the scope of the SEV and provided by the CBEP, RSA. Writes a non-technical resume of information intended for a wide audience	Within 30 days from the date of receiving provides comments and suggestions to the report on the SEV and the project of SPD, carries out methodical guidance, develops regulatory and methodological documents on SEV issues, summarizes the practice	Within 30 days from the date of receiving provides comments and suggestions to the project of SPD and report on the SEV. Develops regulatory and methodological documents on SEV issues	Within 30 days from the date of receiving provides comments and suggestions to the project of SPD and report on the SEV	
3	Carrying out public discussion and consultations	Provides the possibility for public participation in the SEV process by posting on its official website the application for determining the scope of the SEV, the project of SPD and the report on the SEV, publishes message of promulgation in at least two mass media. Establishes the period for public discussion of the application for determining the	If necessary, he applies to the RSA for the implementation of measures to ensure public participation, on which may be spread the consequences of	Involves other BEP or LAB, specialists and scientists in consultations	Provide information and public participation in cross-border consultations after the request	Participates in the discussion of the application on determining the scope of the SEV and (if available) project

Continuation of Table 2

1	2	3	4	5	6	7
		scope of the SEV at least 15 days from the day of its publication	the implementation SPD of the origin country, involves other BEP, LAB, specialists and scientists in consultations		of the Ministry of environment. Involves other BEP or LAB, specialists and scientists in consultations	SPD within a period of at least 15 days from the date of their publication. The term for public discussion the notification on the publication of the project SPD and the SEV report set by the customer: at least 30 days from the date of publication of the notice
4	Taking into account the SEV report, the results of public discussion and consultations (with CBEP, RSA);	Takes into SPD account the SEV report, results of public discussion and consultations. According to the results of the mandatory review, the customer takes into account the received comments and suggestions or rejects them with reasons. Based on the results of the public discussion, prepares a reference on the discussion, taking into account comments and suggestions. Based on the results of the consultations, he prepares a reference on the consultations, which summarizes received comments and suggestions				In writing (including in electronic form) has the right to submit comments and suggestions to the SPD project and the SEV report, participates in public hearings
5	Notification of approval SPD	Informs and provides free access to information in process of SEV, within 5 working days from the date of approval the SPD places on its website the SPD, measures for monitoring the consequences of the carrying-out the SPD				
6	Monitoring the consequences of the carrying-out SPD for the environment, including for the health of the population	Provides within the limits of competence monitoring the consequences of the carrying-out of the SPD for the environment and public health, publishes its results on its website once a year, in case of detection of consequences for the environment unforeseen by the report, takes measures to eliminate them			Take measures to eliminate negative consequences for the environment, public health, caused by the carrying-out of the SPD	

When considering the SEV report, the results of public discussion and consultations with CBEP and RSA, the customer takes into account the received comments and suggestions or rejects them with reasons. He prepares public references about public discussion, taking into account comments, suggestions and consultations with the CBEP and RSA.

This is a crucial stage of SEV as monitoring the consequences of the execution of SPD for the environment, including for the health of the population, is entrusted within the boundaries of competence entirely on the customer with the publication of its results once a year on its website on the Internet. And, together with RSA, in case of detection of consequences for the environment unforeseen by the SEV report, public health takes measures to eliminate them.

In turn, the CBEP (Ministry of the environment and the Ministry of Health), at the regional and local level of RSA, participate only in the first three stages (1–3) of SEV: determination of the scope of SEV, drawing up a report on SEV, carrying out public discussion and consultations, where their role is mainly regulatory and methodical. In particular, this is the provision of comments and suggestions to the application, the report on the SEV and the project DDP, elaboration of regulatory and methodological documents on SEV issues, generalization of practice, involvement of other CBEP specialists and scientists in consultations, etc. That is, at the final three stages (4–6) of SEV, this means taking into account the SEV

report, the results of public discussion and consultations, informing about approval of SPD, monitoring the consequences of the carrying-out SPD for the environment and health of the population, implementation is entrusted to the customer (BEP, LAB), who is responsible for carrying out the SEV, provides it and is the interested party because he wants to implement SPD.

In our opinion, CBEP and RSA should take an active part in the 4–6 stages of SEV, especially the final one, regarding monitoring the consequences of the execution of SPD for the environment and public health. Only then will we achieve legality, objectivity, and balance of interests of all interested parties, prevention of environmental damage, the reliability and completeness of the information in the SPD project, and as a result, the appropriate level of regulation relations in the sphere of valuation consequences for the environment, public health implementation of SPD and the whole sustainable development of the state.

To understand what is emphasised in the new framework Law “On Waste Management”, in contrast with the Law “On Waste”, we carried out a comparative analysis of the structure of the mentioned legislative acts. The results are given in Table 3. In this Table, similar and content-related chapters are located opposite each other; an empty cell opposite the section indicates that this section is new or that the new Law does not include it, or it is included in the other chapter (Struchok, 2022).

Table 3

Comparative analysis of the structure of Ukrainian Laws “On Waste Management” and “On Waste”

No.	Names of sections and a list of articles of the Ukrainian Law “On Waste Management”	Names of sections and a list of articles of the Ukrainian Law “On Waste”
1	2	3
1	Chapter I. General provisions, Art. 1–13.	Chapter I. General provisions, Art. 1–7.
2		Chapter II. Relations of ownership on waste Art. 8–12.
3	Chapter II. Subjects in the sphere of waste management, Art. 14–17.	Chapter III. Subjects in the sphere of waste treatment, their rights and obligations, Art. 13–17.
4	Chapter III. Powers of executive authorities and local authorities bodies in waste prevention and management, Art. 18–26	Chapter IV. Competence of executive authorities and local authorities in waste treatment, Art. 18–25.
5	Chapter IV. Hazardous waste, Art. 27–29.	
6	Chapter V. Household waste, Art. 30–37.	
7	Chapter VI. Incineration, co–incineration and disposal of waste, Art. 38–40.	
8	Chapter VII. Licensing, permit systems and information support in waste management, Art. 41–48.	Chapter V. State accounting, monitoring and informing in waste treatment, Art. 26–30.
9		Chapter VI. Measures and requirements for prevention or reduction of waste generation and environmentally safe treatment, Art. 31–37.

1	2	3
10	Chapter VIII. Waste management plans and programs, Art. 49–56.	Chapter VII. Economic provision of measures for waste utilization and reduction of the volumes of their generation, Art. 38–41.
11	Chapter IX. Liability for violation of legislation in the sphere of waste management, Art. 57–59.	Chapter VIII. Offenses in waste treatment and responsibility for them, Art. 42–44.
12	Chapter X. International cooperation in the sphere of waste management, Art. 60.	Chapter IX. International cooperation in waste treatment, Art. 45.
13	Chapter XI. Final and transitional provisions.	Chapter X. Final provisions.

The new Law does not have the Chapter “Relationships of waste ownership”, only two Articles, 11 and 12, concerning the ownership of waste, are included in the Chapter “General provisions”, which indicates that at this stage, waste management subjects have generally learned to determine the owner of waste.

However, in this Chapter, there is the key article i.e. Article 10 “Extended producer responsibility”, which reflects the essence and latest orientation of the new Law because the responsibility of certain product producers for managing the waste stage in the life cycle of the product is introduced in Ukrainian legislation for the first time, which meets the requirements of European ecological legislation (Pro vidkhody, 2008). In particular, this responsibility is implemented individually or collectively through the organization of extended responsibility formed by a producer or producers. The producer provides waste management, resulting from the use of its products, on the territory of Ukraine through this organization and covers its expenses by paying the necessary financial contributions.

Numerous threats and occurrence of emergencies in the places of storage and removal of waste, the need for an urgent and serious solution to this problem, we can see in the title of Chapter III of the new Law, which refers to the powers of BEP in the sphere of prevention waste generation, that is, the appearance of Article 18 “Authorized bodies of executive power in prevention waste generation and management”, and in the new Chapter VIII “Waste management plans and programs”, of its Article 54 “National program for the prevention of waste generation”.

The appearance of Chapter IV “Hazardous Waste”, Chapter V “Household Waste”, and Chapter VI “Incineration, Co-incineration and Disposal of Waste” in the new Law indicates the importance of activity in these problematic directions for the state. In particular, let's pay attention to Chapter V, which

regulates the management of household waste (HW), including bio-waste. By the main elements of the mentioned waste management, the following roles are determined: HW generators, the service administrator and HW management services, the fee for the specified service, the functioning of separate collection points, the development of investment programs in waste management as a mechanism for financing waste management measures, and the target indicators for the HW management.

In general, the Law “On Waste Management” introduces the following municipal HW management scheme, shown in Fig.1.

Let us analyze the scheme for possible results of its implementation in future.

On the one hand, there is better manageability and administration of the HW management process than in the case of the schemes for HW treatment following the Law “On Waste” (Fig. 2).

In particular, service for HW management is defined. Its administrator can only be the communal enterprise (CE) or service provider for the removal of HW, which is determined by the LAB on a competitive basis. The execution of separate operations on the HW management will be carried out based on contracts with business subjects, concluded by the administrator (executor) of services for the HW management on behalf of the LAB. Communal enterprise, which is the administrator of the HW management service, cannot carry out other activities except for the administration of this service. A clear composition of operations of the HW management service is defined, namely, collection, transportation, recovery and removal of HW. In our opinion, there is a clear transformation of the specified service into a full-fledged service to consumers following the Law of Ukraine “On Housing and Communal Services”. The generator of HW is transformed into the consumer of HW management services.

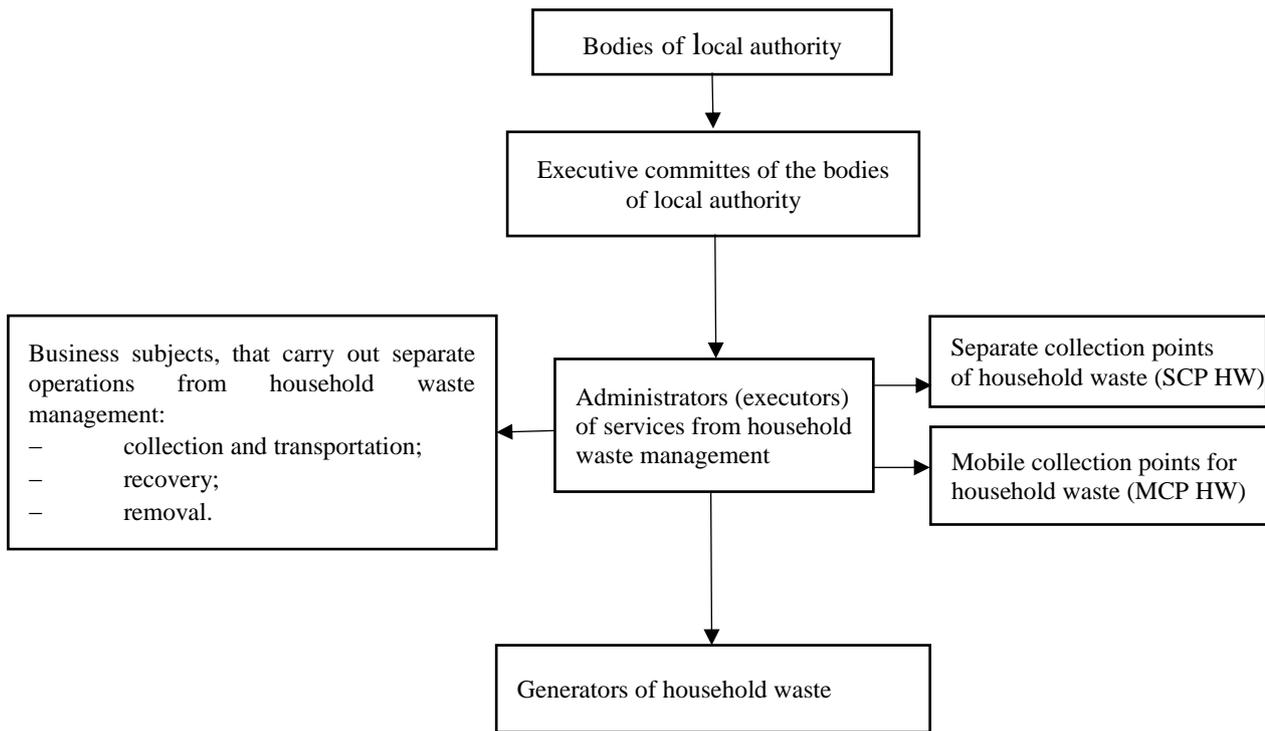


Fig. 1. Household waste management scheme

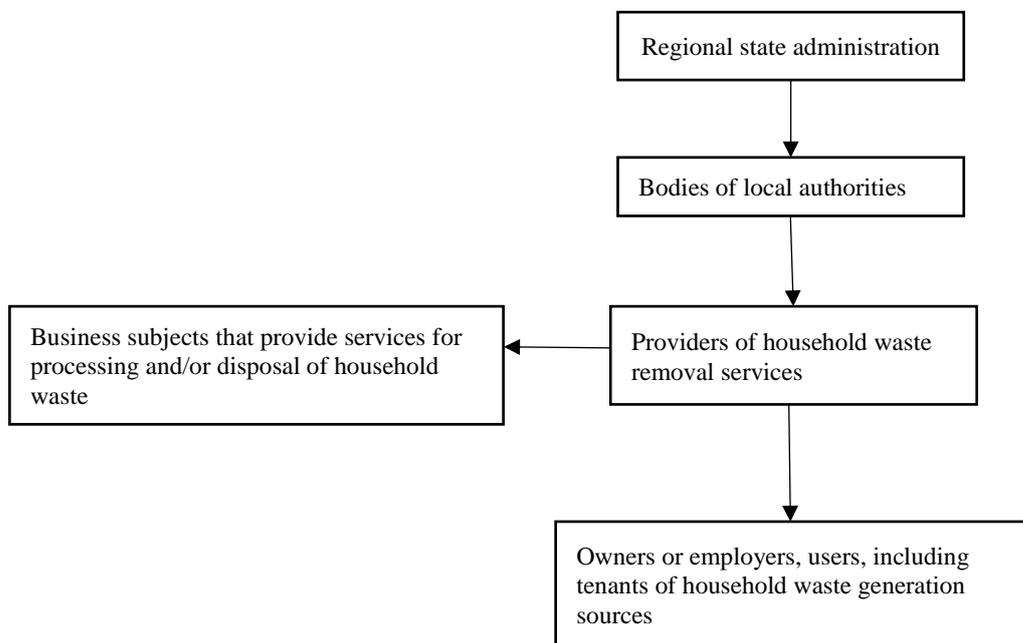


Fig. 2. Household waste treatment scheme

On the other hand, as we have already mentioned, operations for collecting and transporting HW are carried out by economic subjects determined by the LAB on a competitive basis. Recovery and disposal of HW are carried out by business subjects

determined in accordance with regional and local waste management plans. So, according to the author, the depth of HW processing directly depends on the effectiveness, reality and realization of the identified plans. It is obvious that if regional and local plans

are declarative, without a clear scheme for the implementation of necessary infrastructural measures for the HW processing (creation and operation of waste treatment objects, including, in particular, separate collection points of HW (mobile collection points MCP HW), financing them, the processing depth of the HW flow will be low. Most of them will be subjected to removal and disposal, and in some places, they can be in a natural or non-certified rubbish dump. And the new Law sets the task to reach a target indicator of 10 % of the HW weight, prepared for reuse and recycling, by 2025.

The implementation of the mechanism of investment programs in the HW management according to Article 36 of the new Law causes doubts. The sources of financing of the mentioned programs are determined, first of all, funds received by the business subject (BS) from conducting business activities, and its amortization deductions, which are not high in the branch of HW management. In the second place, productive investments from profit i.e. funds provided for in the established tariffs (these are citizens' funds – consumers of PV management services). Further, enterprises own funds, bank credits, investor contributions, and grants, and only in the seventh place, the attraction of budget funds!

In Part 3 of this paper, it is allowed for the LAB, acting as the customer of the investment project, according to the investment program, to set the level of tariffs sufficient for the payback of the project within the established period of realization of the investment project.

It can be concluded from the above mentioned that in the conditions of the military state, sharp increase in unemployment, and general impoverishment of the population, it can hardly make the necessary investment funds and be a source of financing for investment projects. Taking into account that point 1 Part three of article 10 of the new Law regarding full entry into action systems of extended producer responsibility takes validity only seven years after establishing the new Law extended producer responsibility for waste, which were formed as a result of consumption/use of certain products, in our opinion, the main sources of financing investment projects can be budget funds, contributions from investors and grants from the countries of the European Union, USA, Great Britain, Canada, Japan, Sweden and other leading countries in this branch of activity. The waste treatment facilities built or reconstructed with the

specified funds must be transferred to the balance of the local government for further operation.

4. Conclusions

It is necessary that the main objectives (Part 1 of Article 3) of the new Law of Ukraine “On Waste Management” provide for the creation of infrastructure facilities for waste management, taking into account the division of the territory of regions into clusters, the maximum possible disposal of waste through direct reuse or alternative use of resources-valuable waste, the attraction of state and non-state investments and other non-budgetary sources of financing according to the principle of subsidiarity, which will allow creating a new branch of waste processing.

To achieve legality, objectivity, and balance of interests of all interested parties and ensure the effectiveness of the SEV procedure, it is necessary to expand the participation of the CBEP and RSA in the final three stages of SEV (taking into account the SEV report, the results of public discussion and consultations, informing about approval of SPD, monitoring the consequences of the execution of SPD for the environment, for public health), especially in the final one, concerning monitoring the consequences of the execution of SPD for the environment, including public health.

So, in our opinion, successful solid waste management within the framework of the key documents of the national legislative base for waste management and treatment is possible in the case of transition in Ukraine to the circular economy, which provides such treatment, by the condition of active involvement of state budget funds and financial assistance from the countries of the European Union, USA, Canada, Great Britain, Japan, Sweden and other countries.

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