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A New Legal Concept for Understanding the Essence of Production and Consumption Waste: A View from Russia

NOVO CONCEITO LEGAL PARA ENTENDER A ESSÊNCIA DOS RESÍDUOS DE PRODUÇÃO E CONSUMO: UM OLHAR DA RÚSSIA

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Abstract
Recently, production and consumption waste has been recognized as a distinct legal category in the environmental law of the Russian Federation. This regulatory category has been changed several times within a short period. The study evidences that these changes were ontological, resulting from a change in approach to the distinction of waste from other results of economic activity. In practice, these changes introduced new characteristics into the concept of waste, each of which is related to one of the approaches to understanding the essence of waste identified by the authors of the article. The article reveals handicaps of earlier and contemporary approaches to understanding the legal essence of waste in Russia. Based on the results of the study, a new *subjective* approach is proposed. This approach can serve as a starting point for shaping a new conceptual understanding of waste able to improve environmental law and promote quality enforcement.

Keywords
Production and consumption waste; environmental law; legislative history, waste terminology; legal category.

Resumo
Os resíduos de produção e consumo passaram a ser considerados uma categoria legal separada na lei ambiental da Federação Russa há relativamente pouco tempo. E o regulamento da categoria foi várias vezes alterado nesse curto período. O estudo demonstra que tais mudanças foram ontológicas, fundamentadas pela mudança de abordagem da diferenciação dos resíduos em relação aos demais resultados das atividades econômicas. Na prática, tais mudanças introduziram novas características ao conceito de resíduos. Cada uma delas está relacionada a uma das abordagens de compreensão da essência dos resíduos identificadas pelos autores do artigo. O artigo revela deficiências das abordagens anteriores e contemporâneas para a compreensão da essência jurídica dos resíduos que se formaram na Rússia. Pelos resultados do estudo, é proposta uma nova abordagem subjetiva, que pode servir como ponto de partida para moldar uma nova compreensão conceitual dos resíduos que melhorará a qualidade da lei ambiental e da fiscalização.

Palavras-chave
Resíduos de produção e consumo; direito ambiental; histórico legislativo, terminologia de resíduos; categoria legal.

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Introduction

Official documents at all levels register growing quantities of production and consumption waste every year. According to official statistical data, the annual increase of waste generated in Russia represents approximately 500 mln t (7,266.05 mln t in 2018, 7,750.8 mln t in 2019), and only about 50% of it is actually utilized (ROSPRIRODNADZOR, 2020). The situation with municipal solid waste (MSW)[1] is even more troubling. With the current growth of MSW quantities, the capacity of waste landfill sites will be depleted in 32 Russian regions by 2024 (ACCOUNTING CHAMBER OF THE RUSSIAN FEDERATION, 2020).

Such a situation has been evidenced in Russia even though all strategic environment protection and planning documents clearly state that the government shall strive to stimulate entities to use and neutralize waste instead of depositing (burying and storing) it.[2]

The Strategy for the Development of the Industry for Processing, Recycling and Treatment of Waste for the period until 2030 was approved for that purpose.[3] It is expected that implementation of the Strategy will result in:

- decreased quantity of generated waste;
- changed structure and system of waste handling with an emphasis on waste utilization and neutralization (rather than burial);

1 Municipal solid waste: waste generated on residential premises in the process of consumption by individuals, as well as goods which have lost their consumer properties in the process of their use by individuals on residential premises in order to meet personal and household needs.

2 In Russian legislative: «Waste utilization – use of waste for production of goods (products), performance of works, provision of services, including reuse of waste and its intended purpose (recycling), its return to the production cycle after appropriate preparation (regeneration), extraction of useful components for its reuse (recovery), as well as use of solid municipal waste as a renewable energy source (secondary energy resources) after the extraction of useful components at processing facilities.
Waste neutralizing – reduction of waste mass, changes in its composition, physical and chemical properties (including incineration, except for incineration associated with the use of solid municipal waste as a renewable energy source (secondary energy resources) and/or disinfection at specialized facilities) in order to reduce negative impact of waste on human health and environment.
Waste burying – isolation of waste which is not subject to further disposal at special storage facilities in order to prevent harmful substances from entering the environment.
Waste storing – storage of waste in specialized facilities for a period of more than eleven months for the purpose of recycling, neutralization and burial».

3 Decree of the Government of the Russian Federation No. 84-r of January 25th, 2018 «On Approval of the Strategy for Development of Industry for Processing, Recycling and Neutralization of Production and Consumption Waste for the Period Up to 2030».

- established criteria and procedure for referring waste to the category of recyclables;
- regulatory framework harmonization and terminology update.

Similar aims have been set by the President for the Environmental Security Strategy of the Russian Federation until 2025.[4] Therefore, the Russian government absolutely understands that it is mandatory to develop the technologies for waste utilization in the country. The 2015 environmental law review became one of the first solid measures in this process.

During the review, Federal Law No. 89-FZ, dated June 24, 1998 and titled «On Production and Consumption Waste» (henceforth – Law No. 89-FZ) was significantly changed:

- provisions on the concept of extended producer responsibility (EPR) were included;
- a disposal charge[5] was introduced;
- a centralized waste management system was created in the Russian Federation constituents on the basis of the regional waste management operators;
- territorial and federal schemes of waste management were created.

However, the main change was an adjustment to industry terminology to align it with the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (hereinafter – the Basel Convention).

In practice, the focus to align the environmental terminology exclusively to meet the standards and definitions generally accepted globally has aggravated legal uncertainties. Inclusion of new legal norms into Russian laws did not rehabilitate the industry.

Research issues and hypothesis

The academic community has expressed concerns regarding the inefficiency of the waste management industry reform, persistently high rate of waste disposal and lack of resources for the creation of modern waste recycling technologies. It is emphasized that the laws still evidence many gaps in the regulation of waste management activities (GILMUNDINOV, TAGAEVA and BOXLER, 2020, p. 133).

4 Decree of the President of the Russian Federation No. 176 of April 19th, 2017 «On the Strategy of Environmental Safety of the Russian Federation for the Period Up to 2025».

5 Disposal charge – a mandatory monetary payment made for any wheeled vehicle, self-propelled cars and trailers included, imported from foreign countries or manufactured in Russia.

Activists and industry representatives usually disagree on the ecological issues, however, they find common ground on this issue.

It is reasonable to concur with the opinion, issued by the international environmental organization Greenpeace (2021), that the increased quantities of waste recycling and utilization do not solve waste challenges, as such a model does not account for the downcycling process that results in the production of new items of lesser quality. The demand for such items diminishes and consumers return to using the initial resources.

Industry representatives confirm that there are problems with waste recycling (VAKHRAMEEV, 2017).

Pupkova and Shevtsov (2019 and 2020) state in their research that, between 2014 and 2019, one of the most popular sites for e-initiatives in Russia – Change.org – demonstrated stable growth in the quantity of petitions on waste management issues (against placement of waste disposal sites/waste incineration plants and for innovations in waste management).

Governmental representatives are also debating the inefficiency of the waste law review. Varfolomeeva (2016, p. 34), a member of the High Ecological Council with the State Duma of the Federal Assembly of the Russian Federation, stated, in 2016, for example, that the production and consumption waste management reform «evidences great difficulties, to say the least».

The reform's implementation is questioned at the regional level as well. The Samara Oblast government regards measures to harmonize social, business and environmental interests as necessary (CHEREDNIKOV, 2021, p. 273).

All that has led to discussions in the academic community. Further on, when the new laws were applied, their shortcomings were quickly exposed. One of the main reasons for the numerous issues is the inadequate that occasionally allows for qualifying and differentiating tangible objects into waste/non-waste.

For instance, after the breakup of the USSR, during the period of transition to market economy in the 1990s, the cases in which suitable-for-use and having-value-in-use metal products were misclassified as scrap metal waste were widespread. Spare car parts, electrical wires, different steel and non-ferrous metal industry products were delivered to the scrap yards and, further on, exported (BRINCHUK, 1998).

Lawmakers went so far as to introduce a separate definition of «scrap/waste of non-ferrous and/or ferrous metals» in Article 1 of Federal Law No. 89-FZ. These were defined as «articles made from non-ferrous and/or ferrous metals, and alloys thereof, which have become disfunctional or lost their consumer properties». However, the situation did not bring about the desired benefit.

In Primorye (the Far East of Russia) stealing of scrap ferrous and non-ferrous metals became an issue. As per data from the Judicial Information Agency Review Magazine (2001, p. 272), the citizens in the region were not only carrying to the scrap-yards products such as telephones and electrical and home appliances, but also a Lenin monument in Lesozavodsk and ammunition stolen from the Vladivostok military arsenal. Military personnel even tried to take apart a

decommissioned atomic submarine. Additional administrative sanctions introduced by regional lawmakers addressed the problem. However, the legislation was shortly annulled by court decision, as the representative body of the sub-federal region had acted outside their jurisdiction.

Thus, the new definitions granted law enforcement authorities absolute freedom in qualifying material objects as waste. Furthermore, the terminology used in the industry does not clearly differentiate waste from other results of production activities.

GOST 30772-2001[6] established the definition for a «byproduct»:

> additional products made during manufacturing of core products, not because they represent the purpose of the production, but because they are suitable to be used as raw material in another production process or for consumption as a ready-made product. (RUSSIA, 2001).

According to the note to this definition, a byproduct is not regarded as waste. At the same time, the difference between byproducts and other residues of manufacturing activities is vague.

For example, dephosphorization[7] in the metallurgical industry is applied alongside other processes for increasing quality and controlling the content of impurities in steel products. Dephosphorization is performed by means of adding slagging materials, often freshly burnt lime, into liquid alloy.

Dolomitic limestone is used as raw material for the production of lime; at high temperatures, it breaks down into carbon dioxide and lime. During incineration, small particles of lime are suspended in upward gas streams and further collected in filters at gas treatment plants as lime dust (lime powder). The chemical composition of such dust coincides completely with lime that is created during the burning of dolomitic limestone. However, for dephosphorization, lime must be in lumps, which is why lime powder is not used in steel making.

If we address lime powder from the point of view of the definition provided in Law No. 89-FZ, it would thus represent a waste product, as it consists of a residue in the production process. In such a form, lime does not have consumer properties. On the other hand, this lime is an end product. It can be used in construction, for whitewashing, and soil fertilization, given that it has the features of a byproduct as per GOST 30772-2001.

In practice, a similar problem with waste and byproduct identification occurs in other industries as well, which will be deal with in detail in section 6 of this article.

6 GOST (State standart) 30772-2001. *Resource saving.Waste management. Terms and definitions*. Aproved by the Resolution of State Committee of the Russian Federation for Standardization and Metrology of December 28, 2001 No. 607-st.

7 That is, reducing amount of phosphorus and its derivatives in steel melt to the values required for a particular grade of steel.

It is unquestionable that the turnover of goods and wares shall be differentiated from waste management. This distinction can be inferred from the requirements set by accounting rules where information on waste and products is registered in separate accounts, included differently into accounting reports and reflected in the balance sheet, and from the necessity of setting uniform requirements for goods manufacturers.

It is not fair to establish, for some lime dust manufacturers, requirements to register it as waste, issue respective certificates, perform accounting on it, receive licesing for waste management, and develop rates of waste generation and placement, while omiting these requirements for others.

Thus, the existing situation calls for a comprehensive, complex theoretical assessment of legal regulation for waste management procedures. The results of such an assessment can set a model for regulation and development of such relations, as well as the introduction of new legal institutes[8] and systematization of old ones.

The first stage for the solution is to perform a doctrinal interpretation of the industry terms and definitions and to produce an adequate definition of production and consumption waste.

Research objectives and methodology

Terminology is, indeed, of great importance in jurisprudence. It involves the specification of juridical regulations and detailing of lawmaker's intent in order to avoid any legal uncertainty in the regulation of social relations.

Jurisprudence does not tolerate misrepresentation, as even superficial changes of wording, phrases and sentences can distort the initial meaning that was input into the legal norm by the lawmaker (KAGERMANOV, 2020, p. 35).

In some schools of Law, the use of a specific (inherent only to the specific branch of law) system of notions and categories is regarded as a characteristic that suggests the existence of a separate branch of law (TURANIN, 2009, p. 6).

Efficient industrial regulation cannot exist without clear and holistic terminology. Precision of selected definitions influences the ultimate efficiency of the regulatory impact of a specific prescription.

Taking all of the above into account, the objectives of the research are set as follows:

8 In the Russian scientific doctrine, a «legal institution» is a set of legal norms regulating a single related type of social relation.

- to determine the legal meaning, features and essence of «waste»;
- to elaborate an unambiguous definition for the term «waste» that allows to clearly distinguish waste from the connected results of human activities, ensure legal certainty and provide for efficiency of regulation of waste management.

The implementation of such objectives can serve as a starting point for creating a new understanding of waste that can be further developed in studies across the industry.

Apt (2008, p. 4) stated that modern logic actually forms the basis of a lawmaker's work in establishing legal definitions. Logic, in its turn, is based on the nature, content and scope of notions, language forms and their expressions, and rules of formulating term definitions, among other factors.

In jurisprudence, classical methods for creating definitions are often applied, as per the principle «definito per genus proximum et differentiam specificam», formed by Aristotle (1976, p. 213, translated). Terms are defined by nearest genus and differentia.

However, Bentham (1891, p. 233) specified that this method is not universal, as it does not allow for due definition of abstract notions (for example, duty, subjective right, right in rem). Instead, the author uses the paraphrase method. In other words, it is not the term that is interpreted by other words, but the entire phrase.

Hart (2017, p. 147, translated) developed Bentham's argument and proposed a new method for term definition – an explanatory elucidation. It suggests that, instead of trying to create definitions for single words, they should be defined by the characterization of the role they perform in the legal system.

Similar ideas were expressed in the works of Frege (2008, translated) and Wittgenstein (1994, translated), who assume the necessity of the use of contextual definitions. A contextual definition is represented when the term meaning identification implies its definition and analysis of the contexts where it is applied.

Ogleznev (2018, p. 80) performed a comprehensive analysis of the previously described methods for term definition. He suggests that the use of the genus – differentia method is conditioned by two aspects: genus definition is analytical and real, and it is assumed that there are several defined objects before the definition (i.e., the genus of the defined objects is known). However, when it is required to define an ultimately general notion, one shall refer to contextual definitions.

Thus, we are going to use a combination of methods for the creation of the legal terminology previously described in order to analyze the essence of «waste», assess the existing definitions and create a new approach to the legal understanding of waste herein.

The universal formal legal method[9] will be used in this paper in order to assess the regulating impact of the existing and developed approaches to the understanding of the essence of waste.

Apart from that, we will use the comparative legal and the historical analysis methods, which allow for studying the evolution of legal regulation of waste management. A chronological study will permit an understanding regarding the meaning assigned to the term «waste» at different stages of its legal scientific development, the mistakes made and the solutions possible within the accumulated legal regulation experience.

As such, the first part of the article dwells on the initial origin and regulation of waste management and its understanding within the USSR's laws. In the second part, we consider the modern legal framework for waste management. In the third part, we posit constructive proposals for specifying the legal essence of waste within the RF experience.

1. History of legal regulation for waste management

Waste can be named as one of the most ambiguous and disputable categories in law, past and present. It is not possible to evidence a single opinion on the issue of essence of waste, its classification, tradability or lifecycle, neither in science nor in practice.

This is partly due to the fact that the category of «waste» is relatively young. The necessity to identify waste as a separate legal object arose only after the establishment of environmental laws, approximately 50 years ago (ZHAVORONKOVA and ZINOVIEVA, 2016, p. 147). Authoritative studies of the legal regulation of waste management activity in the Russian legal discipline were introduced only at the end of the previous century (RAIMOVA, 1997; BOBYLEV, 1997).

Legal scholars faced the necessity to study such a tangible object as waste generated as a result of human activity only after the emergence of environmental laws as a separate branch of the law. The specific features of the «waste» category can be demonstrated in the context of environmental legal relations.

The use of secondary resources as a way to rationalize production was included into the program of the first five-year plan of the USSR (GOVERNMENT OF USSR, 1930, p. 73). However, initial efforts to regulate activities related to waste can be found in the normative

9 The method of research in which law is studied in its «pure» form, outside any connection with other spheres.

legal acts of the All-Union State Sanitary Inspection[10] and in the ordinances of the Council of Ministers of the RSFSR[11] starting only in the second half of the 20th century.

At first, waste was not considered an environmental, but a sanitary-epidemiological problem. The aim of regulating such activities was not related to environmental protection from pollution, degradation or loss of initial properties. At that stage, waste was regarded as a source of danger for the health and welfare of people. Removal of waste was considered the hygienic minimum required for prevention of the emergence and development of diseases. At the same time, waste utilization by means of its upcycling played an economic role, as it offered new ways for improving on production efficiency and for economy of resources.

There was no distinct definition of the term «waste», so it is not possible to understand what specific meaning the policy makers at that time put on it. However, some properties of waste can be traced with in the Soviet legal acts. In the second half of the 20th century, the laws of the USSR divided waste into liquid, solid and gaseous states.

Gaseous waste was differentiated from industrial emissions, (see (d), clause 5, Instruction by the All-Union State Sanitary Inspection, dated December 30th, 1950),[12] crucial for the creation of the modern system of ecological regulation. Municipal waste stood out from the list as a separate type of waste and was denoted as garbage (clauses 1 and 2, Ordinance of the Council of Ministers of the RSFSR No. 1661, dated December 26th, 1952).

In the middle of the last century, the Soviet state began considering ecological system degradation as a result of human activities.

This fact and the existence of a rather developed (by the standards of that time) system of using recoverable resources can explain why provisions regulating waste management were absent from the environmental protection laws in all of the Soviet Union republics (they were adopted within the period from 1957 to 1963). For example, in RSFSR law «On nature protection», dated October 27th, 1960, the issue of waste management is only evidenced in Article 12, «Sanitary protection of nature», in which a necessity to remove and neutralize waste was declared.

10 Instructions for state sanitary inspection bodies and the sanitary and anti-epidemic service on monitoring implementation of measures to protect the atmospheric air in populated areas from industrial emissions and waste pollution. Approved by the All-Union State Sanitary Inspection on December 30th, 1950.

11 Resolution of the Council of Ministers of the RSFSR of December 26th, 1952 No. 1661 «On Measures to Ensure Neutralization and Disposal of Garbage Exported to Landfills and Agricultural Fields in the Vicinity of Moscow, Leningrad and Cities of Republican (RSFSR) Subordination».

12 All-Union State Sanitary Inspection – a state authority during the USSR (at the moment, its roles are performed by a structural unit of the Ministry of Health).

At the time that environmental laws were created, there was no systemic approach to legal regulation of waste management activities. This explains why there was no legally set definition of waste or clear differentiation of its types (categories or classes).

The first published works from the founders of legal environmental science do not present a systemic approach to the waste issue, either (KOLBASOV, 1961, p. 76; KAZANZEV and KOLOTINSKAYA, 1962, p. 134). Apparently, at that time, the legal regulations related to waste-management did not anticipate any challenges for law enforcement in differentiating waste from non-waste.

According to the results of the analysis we performed, it was related to the quality of the USSR's normative framework, which concentrated on regulating the issues of utilization and involvement of waste into secondary industry. In the Soviet Union, there was a centrally-controlled economy, and there were no clear requirements for waste management by enterprises like those that exist in modern legal systems. Enterprises were not obliged to provide reports on waste generation or obtain approval of waste generation rates and follow limits for allocation.

Under such conditions, for qualification of substances (materials) law-enforcement needed some general knowledge of what is, in fact, «waste» and «garbage». Information on the term «waste» occurs in general reference books, for example, in the Great Soviet Encyclopaedia (PROKHOROV, 1975, p. 51). From this, it was possible to obtain the following definition:

- *Production waste is different in composition, physical and chemical residue properties formed during the manufacturing of products.*

One of the first definitions of the term «waste» in the Soviet Union's legal science was provided in industrial reference books of the 1980s.[13] Thus, the 1984 *Reference Book of Secondary Material Resources in Oil Refining and Petroleum Industries*[14] divides waste into:

- *production wastes, residues of raw materials formed when they are processed into end products (except end products and byproducts);*
- *consumption wastes, different worn out products and spent materials formed during product consumption.*

13 *Secondary Material Resources of Ferrous Metallurgy*, Handbook, 1988; *Secondary Material Resources of Non-Ferrous Metallurgy*, 1984; *Secondary Material Resources of Coal Industry*, 1983, etc.

14 *Reference Book of Secondary Material Resources in Oil Refining and Petroleum Industries*, Handbook. Ekonomika, 1984.

At first sight, it may seem that such definitions do not contain a common attribute by which the material object in both cases can be qualified as waste. However, if we closely study the definitions, it is possible to observe that, in both cases, waste represents those substances (objects) that do not have further application in the specific production process (point of consumption).

In fact, these definitions provide one of the approaches to understanding the essence of waste that is further used in the laws of Russia and in several other former republics of the USSR. Herein, we classify such an approach as «residual» (waste material left over in the process of production/consumption and that cannot further be used by the manufacturer).

From the example of oil refining and petrochemical industries, we also understand that consumption waste was divided into industrial consumption waste (used chemicals, catalysts, petroleum oils) and domestic consumption waste (worn-out rubber products for personal use and household needs) (ABDRAKHIMOV, 1989, p. 3). As such, industrial consumption and production waste constituted a group of industrial waste products.

Radioactive waste, at that time, was differentiated as a separate type of waste. It was divided into liquid (inorganic matter solutions, pulps from filtration materials, organic liquids, etc.) and solid (products, materials, biological objects, used ionizing radiation sources).[15]

We should also take into account the works of N. Reimers (1990, p. 331-332) on the classification of waste and the study of its essence. In his ecological reference book, he identifies production (industrial), consumption, household, gaseous, radioactive, construction and other types of waste as separate categories.

In general, he characterizes «waste» as «types of raw materials unsuitable for production of specific types of products, their residues or substances and energy generated in the course of technological processes that are not utilized in this specific production process».

Thus, the analysis demonstrated that the general concept of the notion and essence of waste was set and its classification created in the legal science and practice of Soviet Russia. These concepts were established not at the moment of the formation of environmental laws as a separate branch of law, but only in the 1980s – when deep market reforms were applied in the Soviet economy. This period of Soviet history bears the name «Perestroika».

As Lavrovsky (2021, p. 1) states, reforms of that period implied refusal of government orders and opening of the national market to foreign corporations as well.

The definition of the terms for waste during these economic reforms confirms the conclusion, made by the authors that, during the period of centrally-controlled economy in the USSR, there was not yet a need for a clear terminology.

15 For more details, see paragraphs 1.3., 1.3.1 and 1.3.2 of SanPiN 42-129-11-3938-85 «All-Union Sanitary-Hygienic and Sanitary-Anti-Epidemic Rules and Regulations».

But does the «residual» approach efficiently differentiate waste from similar results of production activities in modern market relations?

The absence of a single and basic normative act on waste in the USSR became the reason for the conventionality of the above terms and differences between such types. The authors of the article will further propose that the terminology used in the USSR is not universal. Particularly, the «residual» approach does not clearly answer the question of which raw material residues are regarded as byproducts, and which are considered waste.

2. Legal Understanding of the Production Essence and Consumption Waste in Modern Environmental Laws in Russia

It is an error to conflate the regulation of production and consumption waste currently existing in Russia with the model applied in the USSR. The independent classifications of waste established in different economic sectors of the USSR do not allow for the existence of a single system. Thus, there were distinctions for production and consumption waste in the oil industry, light industry, ferrous metallurgy industry, etc.

Even RSFSR Law No. 2060-1, dated December 19th, 1991 and titled «On Environment Protection» in Article 7 mentioned the possibility of issuing permits for burial (storage) of *industrial, municipal and other types of waste*, and a final list of types was left undetermined.

After the USSR's breakup, at the 11th plenary meeting of the Interparliamentary Assembly of the CIS[16] Member Nations that took place on June 15th,1998 in Saint Petersburg, the Model Law on production and consumption waste was adopted (henceforth – the Model Law). This law was adopted in advance of the creation of CIS country systems for production and consumption waste management, so that these systems could become common and unified.

The waste management system approved by the Assembly preserved the framework of the Soviet laws with respect to the basic principle of dividing waste into production and consumption types. The Model Law provided the following definition:

> Production and consumption wastes are any substances, materials and objects that are formed during human activities and do not have further application in the place of their formation or detection and from which their owner is exempt from, intends to, or must be exempt from their utilization or disposal. (CIS, 1998)

Analysis of the syntax in this definition highlighted the following aspects: first of all, the definition settled on the mentioned attributes of the «residual» approach (impossibility of fur-

16 The CIS is the Commonwealth of Independent States.

ther application at the place of their formation). Secondly, the definition included additional wording describing the due management method for residual substances («[…] is exempt from, intends to, or must be exempt from their utilization or disposal»).

Such wording gives waste an additional attribute, according to which it consists of material objects (something one discards) which shall be managed as waste.

Similar wording was used in the definition of waste in the Basel Convention[17] which was ratified by the Russian Federation.

For further research, we propose naming the approach to waste via the wording «activity-related» approach (waste that is identified from the point of view of the required management method for the material object).

Thus, the definition of waste given in the Model law is actually a synthesis of two approaches – the «residual» and the «activity-related».

At the same time, the Model Law has been of an advisory nature for the CIS member nations, which is why not all of its provisions were reflected in Federal Law No. 89-FZ on Production and Consumption Waste, dated June 24th, 1998 (henceforth – Law No. 89-FZ). Despite the agreements reached by the Interparliamentary Assembly, the terms initially set by Law No. 89-FZ significantly differed from the concept implemented in the Model Law.

The first revision of Law No. 89-FZ stated as follows:

> Production and consumption wastes are remains of raw materials, materials, semi-finished products, other articles or products that have been formed in the process of production or consumption, as well as the goods (products) that have lost their consumer properties. (RUSSIA, 1998).

Therefore, Law No. 89-FZ defined waste as residue of material objects (the «residual» approach), however, it added to the term the criterion of the object's loss of its initial consumer properties. For the purposes of this research, we will name the approach to understanding the essence of waste by full or partial loss of the object's properties, its alteration or deterioration as the «qualitative» approach (deterioration of the quality of the object to such a state that it is prevented from meeting consumer demands).

It should be noted that Law No. 89-FZ did not just divide waste into two types – production and consumption waste. Radioactive waste was mentioned as a separate type in Article 2 of Law No. 89-FZ. Later revisions also mentioned biological and medical waste.

17 According to article 2 of the Basel Convention, «waste» consists of substances or objects which are disposed of, are intended to, or are required to be disposed of by the provisions of national law.

Law No. 89-FZ suggests that radioactive, medical and biological waste have special legal regimes that differ from other production and consumption waste. Their regulation is performed in accordance with the special laws and normative acts that include the following definitions:

- *Radioactive wastes are materials and substances as well as equipment, products (including used ionizing radiation sources) that shall not be further used and in which the content of radionuclides exceeds the levels established by the criteria set by the Government of the Russian Federation.*[18]
- *Biological wastes are bodies of animals and birds, aborted and still-born foetuses, veterinary confiscated products, and others that are not suitable to be eaten by people or fed to animals.*[19]
- *Medical wastes represent anatomic, autopsy, biochemical, microbiological and physiological wastes, formed during executing medical activities, activities related to the production of medicines and medical products, activities related to the use of infectious agents and genetically modified organisms for medical purposes and during the production, storage of biomedical cell products.*[20]

It is possible to evidence several issues due to the specific character of regulation in the sphere related to special types of waste. At the same time, such problems are, to a lesser extent, more related to the issues of waste identification than to production and consumption waste.

Medical and veterinary waste is formed in specific industries, i.e., by the organizations and individual entrepreneurs whose activities are related to medicine (pharmacy) and veterinary medicine, respectively. The processes of such activities actually do not pose difficulties for waste identification (for example, used syringes or expired medicines and biological remains).

Relations occurring during the use of nuclear energy are strictly regulated by technical and safety requirements related to radioactive substances (materials). Secondary use of spent radioactive substances (materials) without additional processing is not allowed by law.

Thus, the essence of these special types of waste fundamentally differs from production and consumption waste, which is why the experience of their regulation is not relevant for this article.

18 See Federal Law No. 170-FZ of November 21st, 1995 «On the Use of Atomic Energy».

19 See Federal Law No. 4979-1 of May 14th, 1993 «On Veterinary Medicine».

20 See Federal Law No. 323-FZ of November 21st, 2011 «On the Basics of Protecting the Health of Citizens in the Russian Federation».

It should be mentioned that, at first, Law No. 89-FZ differentiated, within production and consumption waste, a separate category of «hazardous waste»,[21] assuming that there might exist «non-hazardous» ones. The impossibility of establishing a reliable classification of the hazard character presented a challenge to the waste management system in the Russian Federation for several decades.

The «non-hazardous waste» category that existed for some time was derived from the presence in the USSR of only four hazard classes of harmful substances (as per clause 1.1, GOST 12.1.007-76):[22] class I – extremely hazardous, class II – highly hazardous, class III – moderately hazardous and class IV – low-hazardous. The same classification was included as the basis for the 1987 Temporary Classifier of Toxic Industrial Waste[23] and 1995's Recommended Practice for Determining Waste Hazard Class.[24] The systems set to determine hazard classes of harmful substances allowed for existing of waste, the hazard grade of which could be lower than class IV.

Posterior to this, however, first in 2001 and later in 2014, the Ministry of Nature of the Russian Federation approved the Criteria[25] for attributing hazardous waste to a hazard class that filled the gap and introduced hazard class V for waste (virtually non-hazardous waste). The criterion for referring waste to the specific hazard class represented the period of ecosystem restoration after the substance is discarded, which allowed for assigning one of the five classes to any type of waste.

However, paragraph 2, Article 1, Law No. 89-FZ existed with the term «hazardous waste» until December 30th, 2008. During all that time, it was possible to evidence a legal uncertainty allowing for the existence of substances considered waste, but hypothetically, that could be of no harm to the ecosystem when deposited into it.

21 This was understood as substances having properties of toxicity, explosion hazard, fire hazard, high reactivity, or containing pathogens of infectious diseases, or which may pose an immediate or potential danger to the environment and human health independently or when coming into contact with other substances.

22 GOST 12.1.007-76. The State Standard of the USSR. Occupational Safety Standards System. Hazardous Substances. Classification and General Safety Requirements. Approved by the Resolution of the State Standard of the USSR of March 10th, 1976 No. 579.

23 The Temporary Classifier of Toxic Industrial Waste of 1987 and the Methodological Recommendations for Determining the Toxicity Class of Industrial Waste. Approved by the Ministry of Health of the USSR on May 13th,1987 No. 4286-87, GKNT of the USSR May 5th, 1987.

24 Methodological Recommendations for Determining the Waste Hazard Class/Ministry of Natural Resources of the Russian Federation and Goskomsanepidnadzor of the Russian Federation, 1995.

25 Criteria for Assigning Waste to Hazard Class Degree of Negative Impact on the Environment (approved by Order of the Ministry of Natural Resources of the Russian Federation No. 511 of June 15th, 2014).

Finally, in order to remove the uncertainty in Law No. 89-FZ, it was decided to abstain from differentiating among production and consumption waste of special categories (hazardous, toxic, fire-hazardous, explosive, etc.)

The analysis performed by the authors evidences that the first revision of Law No. 89-FZ established the understanding of the essence of waste based on two approaches – «qualitative» and «residual». Such a system was by no means considered ideal. Within the period under investigation, a criminal situation was evolving actively in some industrial markets.

As we mentioned previously, the situation in the ferrous and non-ferrous metals markets was very complex. It is described in detail in a joint study by scientists from the Ural Stage Law University and practising lawyers from «UMMC-Holding Corp»[26] (ABRAMOV *et al.*, 2009). With the view to normalize relationships in the industry, the stage performed large-scale reforms of the laws on waste in 2014 and 2015.

Within the framework of this reform, among other measures, the definition of waste as per the Basel Convention (Activity-related approach) was included into Law No. 89-FZ and wastes were described as *substances or objects that are formed during production, works execution, services rendering or during consumption that are disposed of, are intended to be disposed of or are required to be disposed of by the provisions of Law No. 89-FZ.*

When analysing the new model of waste management, it should be mentioned that Law No. 89-FZ does not contain provisions that explain the meaning of such wording and does not include the term «disposal».

According to paragraph 4, Article 2 of the Basel Convention, «disposal» means any operation specified in Annex IV to the Convention. Unfortunately, despite the desire of the originators to use in Annex IV, the most general and abstract wording, the annex ultimately does not allow for identifying universal attributes for the operations of «disposal». The convention originators have only listed such operations «which occur in practice» (deposit into or onto land, deep injection, release into a body of water, incineration, land treatment, storage pending any of the operations, recycling/reclamation of metals and metal compounds, recycling/reclamation of other inorganic materials, etc.).

By drawing an analogy with Law No. 89-FZ, it is possible to conclude that disposal operations, as per the Russian laws, currently represent waste management operations at the final stage of their lifecycle, i.e., utilization, neutralization or placement (Article 1, Law No. 89-FZ). However, does the understanding of the meaning of waste disposal help in concluding what (as envisioned by the lawmakers) waste actually is? Definitely not.

First of all, we should not ignore the fact that the regulation subject of the Basel Convention is much smaller than the regulation subject of Law No. 89-FZ and is restricted by

26 The company is the largest copper producer in Russia and the ninth largest in the world.

transboundary movements of waste. As Ignatieva (2018, p. 13) correctly stated, the term «disposal» could have reasonably been used in Law No. 89-FZ in the section on regulation, mainly, transboundary movements of hazardous waste and its disposal. However, the new definition in Law No. 89-FZ is fixed as universal in its meaning. At the same time, it should be noted that the definition of waste in the Basel Convention is not actually intended to be used at the stage of qualifying substances as waste, as such an issue shall be resolved at the level of «national law» (paragraph 1, Article 2, paragraph 1, Article 3 of the Basel Convention).

Thus, the structure of the term «waste» in the convention does not contain (and could not contain) the fundamental attributes of waste. The new definition provides no indication of the procedure for substances identification that are «disposed of, intended to, or required to be disposed of» nor an indication of the party that shall make decisions regarding disposal of substances.

In 2014, the Ministry of Nature of Russia also approved of the new Criteria for attributing hazardous waste to hazard classes I-V[27] which accounts for the following:

- grade of waste's hazard to the environment determined with special coefficients and initial indicators of the component hazard;
- dilution factor of the aqueous extract from waste in which there is no harmful impact on hydrobionts.[28]

The new classification allowed for differentiating production and consumption waste by hazard classes more effectively. It was ultimately stated that there is no waste that poses a danger to the environment. However, the classification itself does not allow for diferentiation of material objects as «waste/non-waste», as that is not what it is intended for.

Eventually, the term defined in Law No. 89-FZ lost its practical effect. The essence of the term «waste» formed on the basis of the «activity-related» approach outlines the situation in which it is understood as substances (things and other material objects) that shall be treated as waste. This means that the current definition refers back to itself.

27 Criteria for Assigning Waste to Hazard Classes I – V According to Degree of Negative Impact on the Environment (approved by Order of the Ministry of Natural Resources of the Russian Federation No. 536 of December 4th, 2014).

28 Hydrobionts – organisms adapted to living in the aquatic environment. For the purposes of determining the hazard class, various systematic groups are used – daphnia, ciliates, ceriodaphnia, bacteria, etc.

3. Academic Discussions on the Essence of Waste in Russia

Waste definitions from academic sources were unable to help solve the above described issue related to unrestricted, biased approach and uncertainty when comparing similar results of production activities.

One of the first large-scale studies of the problems of regulating activities related to waste was performed by E. Raimova (1997, p. 9-10). For a better understanding of waste essence, she distinguished waste from the point of view of ecological and legal aspects. It was suggested to regard production waste as residue of feed stock and materials, substances and products, as well as products of physical-chemical or machine processing of feed stock.

From the environmental point of view, not only should the waste have attended to such criteria as full or partial loss of consumer properties and the impossibility of further application in the national economy, but also fulfilled the condition that it not be the purpose of the production process. From the legal point of view, it was suggested to consider as production waste the materials, substances and products that were not the intended purpose of the production process.

The same author offered to regard consumption waste as the products, substances, components and details. From the environmental perspective, the waste should not be suitable in any way for further use. From the legal point of view, it should have partially or fully lost its consumer properties.

The specification of the environmental and legal aspects in the understanding of the essence of waste has, in fact, academic value. However, it should be noted that the effort made by Raimova (1997) to give several definitions for production and consumption waste will only confuse the law enforcement agencies.

At the same time, the criteria identified by the author for the environmental point of view are not actually environmental. These criteria do not reflect the impact of waste on the state and degree of ecosystem deterioration, nor its biological and species diversity. Therefore, the idea of identifying the environmental aspect in understanding waste is not convincing.

After analyzing the given definitions regarding the previously identified approaches, it is not possible to state that the understanding of waste proposed by Raimova (1997) corresponds to the concept that was included in the initial revision of Law No. 89-Z. She applies the «residual» and «qualitative» approaches that, consequently, do not allow for solving the problems set out in this article.

Having said that, within the «qualitative» approach, Raimova (1997, p. 10) offers a rather rigorous point of view that one of the key criteria of waste, intended for its more precise identification, is the unsuitability for further use.

A similar perspective in the study of waste essence in Law No. 89-FZ was posited by Nurmukhametova (1999, p. 28) and Trofimets (2007, p. 20-21). The latter author does not renounce the fact that the existing legal regulation of waste allows for its further use in economic activity. That is why Trofimets (2007) suggests differentiating between:

- Waste, such as substances, materials and products that cannot be reused in the production or consumption process «at least in the foreseeable future».
- Waste as secondary material resource that can be further used in some processes.

From our point of view, such a rigorous approach to the understanding of waste is highly contentious. By proposing the differentiation between used and non-used waste, the authors do not substantiate the economic and environmental reason for such a distinction.

This situation is the consequence of the fact that the term «production and consumption waste» in Law No. 89-FZ was not clear and allowed for an incorrect qualification of substances as waste, aggravating the problem. Assuming that the laws consider the classification of production and consumption waste into waste and secondary material resources, it would not change the fact that both categories are subject to the provisions of Law No. 89-FZ with resulting impairment for their owners. There was not a single list of technologies for management of different types of waste when such offers were proferred, nor is there one currently.

The Database of waste and technologies for using and neutralizing waste[29] that has for many years is an informational resource that summarizes and systematizes the data received by Rosprirodnadzor. The register of data on technologies for waste management is absolutely not comprehensive.

When there is no clear understanding of whether or not waste can and must be reused, it is impossible to create a system of requirements for the waste producers mentioned by Trofimets (2007, p. 14).

Having said that, the availability of technologies for utilization of a certain category of waste does not prove that such utilization is possible in each specific case.

Thus, differentiating production and consumption waste into waste and secondary material resources is, in a certain sense, conventional and not valuable. The introduction of the second category, which required a separate alternative regulation, severely complicates the process of law enforcement for the provisions of Law No. 89-FZ.

4. Application of the Norms in Practice and Judicial Disputes on the Essence of Waste

In practice, striving to unify the terms and definitions did not resolve the problem of substances (materials, products) qualification as a type of waste that previously existed.

29 See Section IV of the Procedure for Maintaining the State Waste Cadastre. Approved by order of the Ministry of Natural Resources of the Russian Federation dated September 30th, 2011 No. 792.

As neither the terms, nor the other provisions of Law No. 89-FZ in its current revision allow for resolving disputable situations, law enforcement agents started considering different methods to qualify the results of economic activity as waste.

In our opinion, the least appropriate method was chosen by the main regulatory institution for production and consumption waste management – the Federal Service for Supervision of Nature Resources (Rosprirodnadzor). After 2015, with cases[30] under governmental inspection, Rosprirodnadzor regional divisions started using the provisions of the Federal Classification Catalogue of Wastes (FCCW)[31] to resolve the issue of «waste/non-waste».

According to paragraph 6 of the Procedure for Keeping the State Waste Inventory,[32] the FCCW includes a list of the types of waste present in the Russian Federation and systematized as per its classification attributes: source, condition of generation (reference to some specific production, technology), chemical and/or component composition, aggregate state and physical form.

The FCCW stays up to date by means of collecting information on classification attributes (source, composition, aggregate and physical state) and hazard classes of specific types of waste submitted by individual entrepreneurs and legal entities (paragraph 10 of the Procedure of keeping the State Waste Inventory).

When Rosprirodnadzor divisions supervise the activities of entities and identify disputable substances that an entity does not account for as waste, they formally compare the substances to attributes from the FCCW list. If a substance or an object have been mentioned in the catalogue, it is acknowledged as waste.

Having said that, the laws allow Rosprirodnadzor to acknowledge material objects as waste even in situations in which such objects have not been included into the FCCW yet.

As Ignatieva (2018, p. 4) states, laws do not prescribe the procedure for acknowledging a substance or an object as waste without attributing its hazard class and emergence of waste as a separate object – with determination of the substance or object's impact on the environment.

Thus, the disputable substance or object can legally be qualified as waste within the framework of expert examination with the aim to determine the hazard class of the disputable substance (object). Such examinations are performed by special laboratories created within

30 See, for example, the Decision of the Arbitration Court of the Ural District of January 17th, 2019 No. F09-8653/18 in case No. A60-16630/2018; the Decision of the Arbitration Court of the Primorsky Territory of April 28th, 2018 in case No. A51-5008/2018.

31 Federal Classification Catalogue of Waste. Approved by Order of Rosprirodnadzor No. 242 on May 22nd, 2017.

32 Procedure of keeping the State Waste Inventory. Approved by Order of the Ministry of Natural Resources of the Russian Federation No. 792 on September 30th, 2011.

the Rosprirodnadzor divisions. For the examination, the experts follow the Criteria for attributing hazardous waste to hazard classes I-V by degree of negative impact on the environment (hitherto – the Criteria) previously mentioned herein.[33]

We strongly believe that neither comparison with the FCCW, nor the determination of a substance hazard class can serve as due mechanisms for differentiating substances into «waste/non-waste».

First of all, the substances or objects listed in the FCCW as waste can be found in the All-Russian Classifier of Products by Type of Economic Activity (OKP).[34] For example, both catalogues contain information on such substances and objects as dross (OKP 172162 Dross, OKP 078320 Dross and Weld Slag, FCCW 3 51 501 00 00 0 Rolling Mill Dross), Lime (OKP 574331 Lime Powder and Dolomitic Lime for Liming Acid Soils, FCCW 3 45 200 00 00 0 Lime and Gypsum Wastes), steelmaking slags (OKP 571831 Slag Crushed Stone from Blast Furnaces and Steelmaking for Road Construction, FCCW 3 51 210 21 20 4 Steelmaking Slag), etc.

At first sight, such a confusing situation can be easily explained by the classical example of juice and candied peels manufacturers. On the one hand, orange juice is the raw material for manufacturing the main product, and the peel left after processing is a useless waste. On the other hand, for the manufacturers of candied peels, the peel represents the raw material, discarding the orange juice as waste. Thus, the inclusion of a substance (object) into the waste catalogue cannot serve as a criterion for the high-level qualifying of a substance or object as waste in each specific case.

Secondly, the determination of waste hazard class is performed by taking into account the dilution factor of the aqueous extract from the waste with no harmful impact on aquatic organisms. As previously mentioned, the criteria were first created for classification of waste depending on its hazard level for the environment.

The criteria have been created in such a way that any of the analysed waste can be assigned to a hazard class. In other words, the determination of the hazard class and the use of the criteria for qualifying substances or objects as waste is unacceptable. Laboratory study of absolutely any substance or object will attribute it with one of the hazard classes with respect to the environment.

This is evident from the fact that any anthropogenic object, the physical-chemical or morphological properties of which are not inherent to the natural components of the environment,

33 Criteria for Assigning Waste to Hazard Classes I – V According to Degree of Negative Impact on the Environment (approved by Order of the Ministry of Natural Resources of the Russian Federation No. 536 on December 4th, 2014).

34 OK 034-2014 (CPA 2008). The All-Russian Classifier of Products by Types of Economic Activity. Approved by the Order of Rosstandart on January 31st, 2014 No. 14-art.

will exert negative impact on the environment. For example, even natural overburden rocks[35] taken from the subsurface will exert negative impact, as their quantitative chemical composition significantly differs from the composition of the surface soils.

It is possible to evidence, in legal precedents, cases in which courts have either agreed and disagreed with the inadequacy of the method of waste identification applied by the Rosprirodnadzor regional divisions.[36] It is noteworthy that, within the framework of disputes in cases No. 60-49692/2017 and 60-49693/2017, the courts were forced to use the earlier existing (and not valid as of the timing of the disputes) revision of Law No. 89-FZ and to resolve the disputes using the older definition (based on the «residual» and «qualitative» approaches). The courts stated that the disputed production residues did not lose their consumer properties and that there are consumers who are interested in their use.

Within the framework of case 50-22167/2014 the court has only applied the «Activity-related» approach. When analysing the issue of acknowledging overburden rocks as waste, the court indicated that the mentioned «overburden rocks are not disposed of and are not required to be. On the contrary, they are subject to reclamation».

However, in order to resolve the issue of qualifying the other substance involved in case 50-22167/2014 (unsorted crushed stone), the court had to go beyond the actual workings of the term «waste» in Law No. 89-FZ. Rosprirodnadzor insisted that, in the dispute, the subject was not crushed stone, but broken brick that was included into the FCCW as waste.

However, the court rejected this reason and agreed with the perspective of the entity that, broken brick as waste is actually ceramic product that has lost its consumer properties. In such a case, the substances are accounted for by the entity as crushed stone and are used for road backfilling and sold to third parties.

Though the court indicated that the clarifications of the parties «are accepted by the court on the basis of the definition of waste given in Law No. 89-FZ», these clarifications were actually based on the «qualitative» approach, and not on the «activity-related» approach, currently fixed in the law.

Thus, at the moment, Law No. 89-FZ could not provide the ordinary law enforcement agent with terms and definitions that would allow for guaranteed uniformity and adequacy

35 Overburden rocks – rocks that cover (enclose) minerals and are subject to excavation and movement in the process of open-pit mining.

36 See, for example, Decision of the Arbitration Court of the Sverdlovsk region in case A60-49693/2017 on January 31st, 2018; Decision of the Arbitration Court of the Sverdlovsk Region in case A60-49692/2017 on July 5th, 2018; Decision of the Arbitration Court of the Perm Krai in case No. A50-22167/2014 on February 18th, 2015.

when determining the essence of production and consumption waste. The law does not give clear criteria for differentiating waste, as such, from other results of economic activity.

As previously mentioned, we believe that the effort of the court to interpret the provisions of Article 1 of Law No. 89-FZ by identifying waste definition of additional (not directly stated) attributes will not improve the situation.

The effort of the court to combine the «activity-related» and the «qualitative» approaches to the understanding of waste will not allow for creating a universal and precise definition. Removal and loss/absence of consumer properties demonstrates their inconsistency for being the criteria for waste identification even in the aforementioned classical example. Following these criteria, both juice manufacturers and candied peel manufacturers must be regarded as non-waste production entities, as neither orange juice nor peel lose their consumer properties during processing and can be further used in production activities.

5. Constructive Proposals on the New Mechanism of Identifying Waste

As the research has demonstrated, the first stages of creating a single system of waste management in Russia could not resolve the task of forming a single and precise understanding of what production and consumption waste represent.

The approaches to understanding the essences of waste identified as – «qualitative», «residual» and «activity-related» – even when combined, do not help in explaining the specific character of waste as a result of economic activity. This defines the need to create a new concept based on the essence of waste that could help in solving the above described problem of qualifying substances, materials and products as waste and their differentiation from other similar categories.

In our opinion, the main problem for a solution consists of the efforts of law makers and law enforcement entities to find objective attributes for the waste, however, they completely disregard the subjective essence of the process of its generation. During the whole existence of such a definition, the law has tried to regulate social relations with respect to waste, defining them as an evaluation criterion that does not account for the standing of the main participant of these social relations – the owner of the waste.

In the Russian legal system, waste ownership is determined as per the civil laws (Article 4, Law No. 89-FZ).

Waste consists of the operation result (use) of tangible objects. So, the issue of waste generation is directly related to that exercised by the owner of the property title.

In order to purchase the ownership of waste, it is important that the person is not necessarily the owner of the initial material object. For example, according to the laws of the Russian Federation, the ownership of waste from the use of the subsurface arises for the company which holds the license for its use (right of obligation), even though the subsurface is owned by the Russian Federation.

Thus, for the emergence of ownership of waste, it is enough to legally own the initial object (proprietary right or right of obligation, irrespectively). As a result, the waste owner is the individual whose economic activity generates such waste.

Thus, the question of waste generation shall be directly related to the procedure of regulating economic activity, guarantees and freedoms of the subjects of its ownership.

Article 8 of the Constitution of Russia sets the principles of market economy and guarantees freedom of economic activity. Article 35 of the Constitution of Russia determines the rights of the owner with respect to the owned property and establishes the guarantees that protect the owner from being deprived of such right.

The provisions of the Constitution of Russia determine that each manufacturer has the right to establish their production process and their purposes, and the consumer has the right to decide when to dispose of the property belonging to them.

Taking this into account, the identification of the objective criteria (genus or context attributes) cannot account for the subjective character of waste generation.

We believe that relations in waste management can be regulated only with the creation of a theoretical model of understanding the essence of waste which contains the criteria of the new «subjective» approach. Some of the approach aspects can be found in the works of Ignatieva and Ponomarev. By defining the term «waste», Ponomarev (2010, p. 176-187) refers to the liabilities of the persons whose activities generated waste in order to register it, determine its hazard class and organize execution of passports, set in Law No. 89-FZ.

Ignatieva (2018, p, 6), on the other hand, states that when the term set in Law No. 89-FZ is not sufficient, it is possible to apply a retrospective assessment of the acting entity's behavior as an objective criterion which allows for identifying the substance (object) as waste or non-waste. In other words, a material object can be named as waste in situations in which the previous behavior of the person (receipt of the license for the activities related to waste, development of waste passports and the completion of the waste registration form) testifies to that.

These authors do not propose their own full-scale approaches to defining the terms in the industry or to regulating the subjective judgement of the waste owner. Ignatieva mentions only two options for improving the clarity of the existing definition:

- explanation through acknowledged notions with clear definitions; waste listing (groups of waste) for which Law No. 89-FZ is valid;
- or, on the contrary, listing the exclusions for which the law is not valid.

The necessary perspective to account for the subjectivity of the waste generator is supported by Kolb (2018, p. 17). Referring to the absence of legally relevant attributes of waste in the Law which allow for differentiating it from «non-waste», Kolb (2018) states that the essence of waste consists of the substance or the object which is no longer necessary for the owner.

It is possible to agree with these authors that, when identifying waste, it is necessary to consider the retrospective analysis of the behaviour of the person whose activities generated the disputable material objects.

However, we should say that the approach presented by the authors is still not absolute or one-sided. Considering the situation in which a person is brought to justice for not implementing their liability to register waste,[37] the fact that such an individual has not registered the substance or object as waste should be regarded for the benefit of the owner of such a disputable substance.

We believe that identification in theory of the subjective criterion should not specifically imply setting it in to Law No. 89-FZ. It is necessary to create a mechanism that could restrict the subjective viewpoint of the right owner with respect to the identification of the substance as waste.

Certain mechanisms were previously developed in Russia, allowing for the minimization of cases of transboundary movement of valuable products registered as waste. As Ponomarev (2018, p. 110) states, administrative barriers of the Russian laws in international transportation of waste can be described as excessive. It can be regarded as a factor that precludes a return to the large-scale scrap metal export seen in late 1990s and early 2000s.

However, we assume that it is also necessary to avoid the opposite extreme, when waste is used by the owner or stored at warehouses as ready-made products with no oversight. With account of the academic and practical experience accumulated in Russia, it is necessary to develop a new «subjective approach» that will include some aspects of the «qualitative» approach. This will help to identify a more generic and universal definition, ensuring the balance of private and public interests.

Thus, we propose to include in the Law on waste the following definition, based on the «subjective» and «qualitative» approaches:

- *Production and consumption wastes are substances or objects generated by citizens, individual entrepreneurs or legal entities in the process of production, execution of works, service rendering or in the process of consumption, that have partially or fully lost the ability to meet the consumer demands of the person who has generated waste and of which such person has disposed or wants to.*

Considering the situation in which the person has not disposed of and does not intend to dispose of the material result of the economic activity, such a result is not qualified as waste, representing the end product of a byproduct of the production process.

37 For example, in the Russian legal system, all waste owners must complete and submit statistical reporting forms (2-TP waste) to Rosprirodnadzor. Such reporting should contain data on the volumes of waste generation (accumulation) and the further life cycle, up to the places of final utilization/neutralisation/burning.

It is important that the attribution to substances (objects) of the status of product/byproduct is performed according to prescribed legal requirements.

It means that the substance shall comply with the sanitary-hygiene norms and rules, environmental requirements and laws on technical regulation. Thus, Law No. 89-FZ shall be amended with the conditions in which substances (objects) can be qualified as waste, irrespectively of the opinion of the person who generated it in the course of its production or consumption process.

We propose identifying a range of requirements to the products, such as conditions that can be traced from overall interpretation of two federal laws:[38]

- absence of design, technological or other documentation that allows for referring to substances and materials as products;
- absence of duly approved technical specifications that allow for not referring the disputable substances or objects to production and consumption waste;
- absence of documents confirming the compliance of generated substances and materials with the requirements of technical regulation documents applied to products;
- absence in the primary accounting documents of operations in which they are regarded as products or reflection of disputable substances (objects) as waste;
- execution of operations to place substances (objects) as waste or sell the substances (objects) to third parties under civil law contracts for further placement.

Conclusion

Thus, production and consumption waste, as a legal category, has already faced several developmental stages within the relatively short period of existence of the Russian environmental law.

In theory, these stages are characterized by ontological changes in the model of relation between waste and other results of economic activity. In practice, this was reflected in the inclusion of the term «waste» as having new attributes belonging to one of the approaches to understanding the essence of waste, which we have previously identified as «residual», «qualitative» and «activity-related».

Our research has demonstrated that, even when combined in different variations, the existing approaches do not allow for defining the notion of waste by fully differentiating it from related legal categories, such as, for example, byproducts.

38 Federal Law No. 162-FZ of June 29th, 2015 «On Standardization in the Russian Federation»; Federal Law No. 184-FZ of December 27th, 2002 «On Technical Regulation».

Such a problem calls for the necessity to combine and precisely elaborate the theory of a new approach, one that will account for the subjective character of the waste generation process and retain the objective criteria for preserving the quality of law enforcement. The legal framework for such a «subjective» approach set herein can serve as the starting point for the emergence of a new concept for understanding waste.

REFERENCES

ABDRAKHIMOV, Yury R. *Classification of Waste Products from the Production of Cracking Catalysts, Rational Processing and Use*: An Overview [*Klassifikatsiya otkhodov proizvodstva katalizatorov krekinga, ratsional'naya pererabotka i ispol'zovaniye*: Obzornaya informatsiya]. Moscow: TsNIITEneftekhim, 1989.

ABRAMOV, Valery V.; BELYKH, Larisa A. *et al*. Legal Assessment of the Current Legislation in the Field of Procurement, Processing and Sale of Non-ferrous Scrap [Pravovaya otsenka deystvuyushchego zakonodatel'stva v oblasti zagotovki, pererabotki i realizatsii loma tsvetnykh metallov]. *Business, Management and Law*, [*s. l.*], v. 20, n. 3, p. 130-137, 2009. Available at: https://elibrary.ru/item.asp?id=14871468. Accessed on: July 17, 2022.

ACCOUNTING CHAMBER OF THE RUSSIAN FEDERATION. *Bulletin*: Garbage Reform. Moscow: [*s. e.*], 2020. n. 9 (274). Available at: https://ach.gov.ru/upload/iblock/462/46234b3e3624fcccbb8bace5c892f2f4.pdf. Accessed on: July 17, 2022.

ARISTOTLE. Metaphysics. *In*: ASMUS, Valentine F. *Works:* In 4 v [Sochineniya: v 4 t.]. Moscow: Thought [Mysl'], 1976. v. 1.

APT, Lydmila F. *Definitions and Law* [*Definitsii i pravo*]. Moscow: Publishing Center «Academy» [Izdatel'skiy tsentr «Akademiya»], 2008.

BENTHAM, Jeremy. *A Fragment on Government*. Oxford: The Clarendon Press, 1891.

BOBYLEV, Anatoliy I. *ch. ed. Theoretical Foundations for the Formation of Environmental, Agrarian, Land Legislation in the Constituent Entities of the Russian Federation* [*Teoreticheskiye osnovy formirovaniya ekologicheskogo, agrarnogo, zemel nogo zakonodatel'stva v sub"yektakh Rossiyskoy Federatsii*]. Orenburg: Orenburg State University, 1997. (Collection of Scientific Papers).

BRINCHUK, Mikhail M. Environmental Law: Textbook [Ekologicheskoye pravo: uchebnik]. Moscow: Lawyer [Jurist`], 1998.

CHEREDNIKOV, Anton V. On Some Problems of Harmonizing the Interests of Business, Consumers and Environmental Interests in the Implementation of the «Garbage Reform» [O nekotorykh problemakh garmonizatsii interesov biznesa, potrebiteley i ekologicheskikh interesov v realizatsii «musornoy reformy»]. *In: Sustainable Development, Innovation and «Green» Economy and Technology: III All-Russian Scientific and Practical Conference with International Participation, Dedicated to the 90th Anniversary of SSEU* [*Ustoychivoye razvitiye, innovatsii i «zelenaya» ekonomika i tekhnologii: III Vserossiyskaya nauchno-prakticheskaya konferentsiya s mezhdunarodnym uchastiyem, posvyashchennaya 90-letiyu SG·EU*]. Samara: Regional Universal Scientific Library, May 19, 2021. Available at: https://elibrary.ru/item.asp?id=47457814. Accessed on: July 17, 2022.

CIS. Interparliamentary Assembly of the CIS Member States. *On Production and Consumption Waste (Model Law)*. Resolution No. 11-9 of June 15, 1998.

FEDERAL SERVICE FOR SUPERVISION OF NATURAL RESOURCE USAGE (ROSPRIRODNADZOR). *Report on the Activities of Rosprirodnadzor, 2020*. Available at: https://rpn.gov.ru/regions/14/news/doklad-o-deyatelnosti-federalnoy-sluzhby-po-nadzoru-v-sfere-prirodopolzovaniya-v-2020-godu-5730996.html. Accessed on: July 17, 2022.

FREGE, Gottlob. *Logical and Philosophical Works* [*Logiko-filosofskie trudy*]. Translated from English, German and French by V. A. Surovets. Novosibirsk: Siberian University Publishing [Sibirskoye universitetskoye izdatel'stvo] House, 2008.

GILMUNDINOV, Vadim M.; TAGAEVA Tatiana O.; BOXLER Anastasia I. Analysis and Forecasting of Waste Management Processes in the Russian Federation [Analiz i prognozirovanie processov obrashcheniya s othodami v RF]. *Problems of Forecasting* [*Problemy prognozirovaniya*], [*s. l.*], v. 178, n. 1, p. 126-134, 2020. Available at: https://elibrary.ru/item.asp?id=42942038. Accessed on: July 17, 2022.

GOVERNMENT OF USSR. *Five-Year Plan for the National Economic Construction of the USSR* [*Pyatiletniy plan narodno-khozyaystvennogo stroitel stva SSSR*]. Gosplan of the USSR. 3rd ed. Moscow: Planned Economy [Planovoye khozyaystvo], 1930. v. 2.

GREENPEACE. *The Economy of the Open Cycle:* A Study of the Possibility of Recycling Plastics in Russia [*Ekonomika razomknutogo cikla*: issledovanie vozmozhnosti vtorichnoj pererabotki plastmass v Rossii]. April 2021. Available at: https://greenpeace.ru/wp-content/uploads/2021/04/Экономика-разомкнутого-цикла.pdf. Accessed on: July 17, 2022.

HART, Herbert L. A. *Philosophy and Language of Law* [*Filosofiya i yazyk prava.*]. Translated from English. Moscow: Kanon+, 2017.

IGNATIEVA, Inna A. Legal Problems of Defining the Concepts of «Production and Consumption Waste» [Pravovyye problemy opredeleniya ponyatiy «otkhody proizvodstva i potrebleniya»]. *Environmental Law*, [*s. l.*], n. 1, p. 12-19, 2018.

JUDICIAL INFORMATION AGENCY. There Is No Reception Against Scrap [Protiv loma net priyema]. *Judicial News:* Review for the Media, Authorities and Practicing Lawyers [*Sudebnyye novosti*: obozreniye dlya SMI, vlasti i praktikuyushchikh yuristov]. Moscow: Yustitsinform, 2001. n. 1.

KAGERMANOV, Aby-Salih S. The Role of Legal Terminology in Modern Legislation [Rol' yuridicheskoy terminologii v sovremennom zakonodatel'stve]. *Law and Practice* [*Pravo i praktika*], [*s. l.*], n. 4, p. 34-38, 2020. Available at: https://doi.org/10.24412/2411-2275-2020-4-34-38. Accessed on: July 17, 2022.

KAZANZEV, Nikolay D.; KOLOTINSKAYA Elena P. *Legal Protection of Nature in the USSR*: Textbook [*Pravovaya okhrana prirody v SSSR*: Uchebnoye posobiye]. Moscow: Gosjurizdat, 1962.

KOLB, Anastasia A. Definition of the Concept of Waste, Including Solid Municipal Waste, as an Object of Intersectoral Legislative Regulation [Opredeleniye ponyatiya otkhodov, v tom chisle tverdykh kommunal'nykh otkhodov, kak ob"yekta mezhotraslevogo zakonodatel'nogo regulirovaniya]. *Agrarian and Land Law* [*Agrarnoye i zemel'noye pravo*], [*s. l.*], v. 168, n. 12, p. 15-20, 2018. Available at: https://elibrary.ru/item.asp?id=37128516. Accessed on: July 17, 2022.

KOLBASOV, Oleg S. *Nature Protection According to Soviet Legislation* [*Okhrana prirody po sovetskomu zakonodatel stvu*]. Moscow: Gosjurizdat, 1961.

LAVROVSKY, Igor K. Economic Transformation of the Soviet System in the 1980-1990s: Sources of Capital and Power [*Ekonomicheskaya transformatsiya sovet·skoy sistemy v 1980-1990-kh godakh*: istochniki kapitala i vlasti]. *EKO*, [*s. l.*], v. 570, n. 12, p. 24-45, 2021. Available at: https://doi.org/10.30680/ECO0131-7652-2021-12-24-45. Accessed on: July 17, 2022.

NURMUKHAMETOVA, Elvira F. *Legal Regulation of Waste Management* [*Pravovoye regulirovaniye obrashcheniya s otkhodami*]. Orenburg: [*s. e.*], 1999.

OGLEZNEV, Vitaly V. The Limits of Applicability of a Genus – Differentia Definition in Legal Language [Granitsy primenimosti rodovidovykh opredeleniy v yuridicheskom yazyke]. *Bulletin of Tomsk State University* [*Vestnik Tomskogo gosudarstvennogo universiteta*], [*s. l.*], n. 437, p. 77-81, 2018. Available at: http://journals.tsu.ru/uploads/import/1800/files/437_077.pdf. Accessed on: July 17, 2022.

PONOMAREV, Mikhail V. Problems of Implementation in the Russian Federation of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal [Problemy realizatsii v Rossiyskoy Federatsii Bazel'skoy Konventsii o kontrole za transgranichnoy perevozkoy opasnykh otkhodov i ikh udaleniyem]. *In*: *Actual Problems of Modern International Law*: Materials of the XV International Congress [*Aktual nyye problemy sovremennogo mezhdunarodnogo prava*: materialy XV Mezhdunarodnogo kongressa]. Moscow: RUDN, 2018. v. 2. Available at: https://elibrary.ru/item.asp?id=34916809&selid=34916835. Accessed on: July 17, 2022.

PONOMAREV, Mikhail V. Waste as Objects of Property Rights and Legal Restrictions on Their Turnover [Otkhody kak ob"yekty prava sobstvennosti i pravovyye ogranicheniya ikh oborotosposobnosti]. *In*: BOGOLUBOV, Segrey A. *et al*. *Institutes of Environmental Law* [*Instituty ekologicheskogo prava*]. [*S. l.*], [*s.e.*], 2010.

PROKHOROV, Alexander M. *ch. ed. Great Soviet Encyclopedia* [*Bol'shaya Sovet·skaya Entsiklopediya*]. 3rd ed. Moscow: Soviet Encyclopedia, 1975. v. 19.

PUPKOVA, Yulia V.; SHEVTSOV, Yury R. Waste Management Reform: Public Social Reaction on the Internet (Part 2) [Reforma sfery obrashcheniya s othodami: obshchestvennaya social'naya reakciya v seti internet (chast' 2)]. *Society: Sociology, Psychology, Pedagogy* [*Obshchestvo: Sociologiya, Psihologiya, Pedagogika*], [*s. l.*], v. 70, n. 2, p. 27-32, 2020. Available at: https://www.elibrary.ru/download/elibrary_42528422_81038644.pdf. Accessed on: August 7, 2023.

PUPKOVA, Yulia V.; SHEVTSOV, Yury R. Waste Management Reform: Public Social Reaction on the Internet (Part 1) [Reforma sfery obrashcheniya s othodami: obshchestvennaya social'naya reakciya v seti internet (chast' 1)]. *Society: Sociology, Psychology, Pedagogy* [*Obshchestvo: Sociologiya, Psihologiya, Pedagogika*], [*s. l.*], v. 67, n. 11, p. 43-49, 2019. Available at: https://elibrary.ru/item.asp?id=41864780. Accessed on: July 17, 2022.

RAIMOVA, Elvira F. *Legal Regulation of Waste Management* [*Pravovoye regulirovaniye obrashcheniya s otkhodami*]. Dissertation (Ph.D. in Natural Resource, Agricultural and Environmental Law) – Orenburg State University, Orenburg, 1997.

REIMERS, Nikolay F. *Nature Management. Dictionary Reference* [*Prirodopol'zovaniye. Slovar'-spravochnik*]. Moscow: Thought [Mysl'], 1990.

RUSSIA. State Committee for Standardization and Metrology (Gosstandart). GOST (State Standart) 30772-2001. *Resource Saving. Waste Management. Terms and Definitions*. Approved by the Resolution No. 607-st. of December 28, 2001.

RUSSIA. *On Production and Consumption Waste*. Federal Law No. 87-FZ of June 24, 1998.

TROFIMETS, Stanislav S. *Legal Regulation of the Treatment of Production and Consumption Wastes* [*Pravovoye regulirovaniye obrashcheniya s otkhodami proizvodstva i potrebleniya*]. 2007. Dissertation (Ph.D. in Government and Law) – Russian Academy of Sciences, Moscow, 2007.

TURANIN, Vladislav Yu. The Meaning of Legal Terminology for Law and Features of its General Legal Research [Znacheniye yuridicheskoy terminologii dlya prava i osobennosti yeye obshchepravovogo issledovaniya]. *Law and Education* [*Pravo i obrazovaniye*], [*s. l.*], n. 3, p. 4-10, 2009. Available at: https://www.elibrary.ru/item.asp?id=11992482. Accessed on: July 17, 2022.

VAKHRAMEEV, Stanislav E. Waste Recycling in Russia: Our Troubles and Victories [Pererabotka othodov v Rossi: nashi bedy i pobedy]. *Municipal Solid Waste* [*Tverdye bytovye othody*], [*s. l.*], v. 130, n. 4, p. 45-47, 2017. Available at: https://elibrary.ru/item.asp?id=29116940. Accessed on: July 17, 2022.

VARFOLOMEEVA, Ludmila V. Focus on Waste Management Reform [Fokus na reforme sfery obrashcheniya s otkhodami]. *Municipal Solid Waste* [*Tverdye bytovye othody*], [*s. l.*], v. 34, n. 8, p. 34-37, 2016. Available at: https://elibrary.ru/item.asp?id=26630601. Accessed on: July 17, 2022.

WITTGENSTEIN, Ludwig. *Philosophical Works, Part 1* [*Filosofskie raboty, chast' 1*]. Translated by M. S. Kozlova e Yu A. Aseev. Moscow: Gnozis, 1994.

ZHAVORONKOVA, Natalia G.; ZINOVIEVA, Olga A. The History of the Development of Land, Natural Resources and Environmental Law [Istoriya razvitiya zemel'nogo, prirodoresursnogo i ekologicheskogo prava]. *Bulletin of the O.E. Kutafina* [*Vestnik Universiteta imeni O.Ye. Kutafina*], [*s. l.*], v. 17, n. 1, 2016. Available at: https://www.elibrary.ru/item.asp?id=26486357. Accessed on: July 17, 2022.

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