

## Artículo de investigación

# Problems of institutionalization of waste management in Russia

Problemas de institucionalización de la gestión de residuos en Rusia  
Problemas de institucionalização da gestão de resíduos na Rússia

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## Abstract

The article considers the current state of the waste management industry in Russia. The central issue is the problem of modernization and institutionalization of management schemes. The institutional, functional and social features of the waste management industry in Russia are considered in this article, based on the discourse analysis of legal and state documents in the sphere of environmental, economic and management control. The stages of the waste management problem formation, achievements and limitations of the modern vector of environmental modernization of the waste management sector are highlighted in the article.

The author came to the conclusion that the main obstacles to the non-waste management policy are: the content of the objectives of environmental modernization and their practical implementation in the "Clean Country" project, profitability barriers of technological and organizational support of the waste stream, the problems of unifying and harmonizing of regional schemes in the overall waste management conception.

**Keywords:** waste, ecological policy modernization, non-waste production, waste management, territorial schemes

## Resumen

El artículo considera el estado actual de la industria de gestión de residuos en Rusia. El problema central es el problema de la modernización y la institucionalización de los esquemas de gestión. Las características institucionales, funcionales y sociales de la industria de gestión de residuos en Rusia se consideran en este artículo, basadas en el análisis del discurso de documentos legales y estatales en el ámbito del control ambiental, económico y de gestión. En el artículo se destacan las etapas de la formación de problemas de gestión de desechos, los logros y las limitaciones del vector moderno de modernización ambiental del sector de gestión de desechos.

El autor llegó a la conclusión de que los principales obstáculos a la política de gestión de residuos no son: el contenido de los objetivos de modernización ambiental y su implementación práctica en el proyecto "País limpio", barreras de rentabilidad del apoyo tecnológico y organizativo del flujo de residuos, los problemas de unificación y armonización de esquemas regionales en la concepción general de gestión de residuos.

**Palabras clave:** residuos, modernización de la política ecológica, producción sin residuos, gestión de residuos, esquemas territoriales

## Resumo

O artigo considera o estado atual da indústria de gestão de resíduos na Rússia. A questão central é o problema da modernização e institucionalização dos esquemas de gestão. As características institucionais, funcionais e sociais da indústria de gerenciamento de resíduos na Rússia são consideradas neste artigo, com

base na análise de discurso de documentos legais e estaduais na esfera de controle ambiental, econômico e de gestão. As etapas da formação do problema de gestão de resíduos, conquistas e limitações do moderno vetor de modernização ambiental do setor de gestão de resíduos são destacadas no artigo.

O autor chegou à conclusão de que os principais obstáculos à política de gestão de resíduos não são: o conteúdo dos objetivos de modernização ambiental e sua implementação prática no projeto "País Limpo", barreiras de rentabilidade do suporte tecnológico e organizacional do fluxo de resíduos, os problemas de unificação e harmonização de esquemas regionais na concepção global de gestão de resíduos.

**Palavras-chave:** resíduos, modernização da política ecológica, produção não relacionada a resíduos, gestão de resíduos, esquemas territoriais

## Introduction

In a sociological approach social institutions are understood as structuring and integrating elements in the social system, that ensure the satisfaction of the collective needs of society (Parsons, 1971; Spenser, 1904). Wastes act in two functional elements - as polluters in the institution of human interaction with the environment and as resources in the institute of the production and economic system, forming social institutions. The society need is to regulate these flows to ensure security and stability. Both institutions assume the formation of a stable type of connection and a system of rules. A number of scientists emphasize the necessity of a normative approach (Smelser, 1994; Luhmann, 1995).

However not always collective actions can support the original goal in providing a safe system, as systems of constructed rules may differ (Berger & Lukman, 1995; North, 1997). as well as some elements may have dysfunctions (Merton, 1994).

In Russian sociology the institutional approach is presented by SS Frolova (Usacheva, 2017; Yermolayeva, 2017). Striving for non-waste production is one of the central characteristics for ensuring a sustainable city (Usacheva, 2017; Ermolaeva, 2017; Yermolayeva, 2017). and its socio-ecological metabolism (Yanitsky, 2018). These researches show that the technical and environmental aspects of waste management are clarified, but the data discrepancy is applicable to the direction in which the modernization of the industry in Russia is to be built. This is an essential gap in the sociology of management, since this issue hasn't been well clarified in Russian science.

The purpose of the research is to characterize the processes of institutionalization of the industry, highlight its stages, strengths and weaknesses on the basis of discourse analysis of

official government documents and a list of scientific and analytical materials.

## Methods

To solve the research problems a discourse analysis of 70 state subordinate source documents was made in February-March 2018. The sources were classified as follows: legislative and subordinate legislation on waste management, management programs and implementation plans, state reports, scientific articles on waste management for environmental, technical, economic management, analytical media publications. The keywords were: waste, ecological policy modernization, non-waste production, waste management, territorial schemes.

The structure of the analysis is reduced to the compiling of stages and characteristics of institutionalization processes; a structural-functional analysis of institutions with a description of the functions of the industry is carried out as well as its capabilities and effectiveness assessment, where effectiveness is the actual opportunity to contribute to reducing waste generation and preventing the production.

## Results and discussion

The current situation with municipal solid waste in Russia has much in common with the state of the sector in the countries of Central and Eastern Europe (EU-12) about 10-15 years ago. Since the government issues the challenge to change the state of affairs in the waste recycling industry, the accelerated development trajectory traversed by these countries is the most expedient variant. It's more appropriate than the gradual evolutionary development of the sector, practiced by trial and error in the more advanced EU-15 countries. The government and experts plan to implement new mechanisms for managing the sector and





the measures laid down in the innovative approach at least in 15-20 years (Waste in Russia: garbage or valuable resource? Scenarios for the development of the solid municipal waste management sector). Functional management prevails in Russia; a certain obligation is assigned to each body.

The amount of used and neutralized wastes of production and wastes of consumption in the country increased from 1396 million tons in 2006 to 2685 million tons in 2015, i.e. almost doubled (<http://www.mnr.gov.ru/gosdoklad-eco-2015/waste.html#tbo10A>).

The overwhelming part of the waste belongs to the V hazard class, i.e. to non-hazardous waste - 31.1 billion tons, or almost 99% of the total volume. The rest is hazardous waste, incl. classified as the first class of danger - 14 thousand tons; class II - 375 thousand tons, the third class - more than 26 million tons and the fourth hazard class - about 328 million tons.

As a result of the analysis the following stages of the institutionalization of the waste management industry were identified:

**1. The emergence of a need.** In the 1930s the Soviet model of the cyclical economy was formed due to the need for creation of a closed ecological resource and political system, but the main industrial goal was a policy of increasing growth. In the 1990s with the fall of Soviets, the systems of rules created in the model of the Soviet cyclical economy were dissolved.

Institutional necessity and social need for creation and revision of the waste management structure has been formed on the basis of two directions: external (the influence of models and global standards of green economy, reinterpreted world values of eco-modernization, the need to observe international quotas and agreements on not exceeding pollution), internal (public discontent, unprofitability of the linear model "from producer to landfill").

**2. The formation of common goals** on the way to the institutionalization of waste management has also been based on the already created model of Soviet economic growth, the model of the raw material export economy of traditional energy resources. In the early 2000s the growth was complemented by the declared goals of the green non-waste economy, but there

was no implementation of the creation of a separate collection and recycling industry.

### **3. The emergence of social norms and rules.**

Despite the fact that in 2014 there was a new Federal Law dated 29.12.2014 No. 458-FZ, the definition of solid municipal waste (Federal Law No. 458-FZ of December 29, 2014) and the definition of recycling with the distribution of roles weren't practiced by the RNO, which was an obstacle on the way to a non-waste economy. Thus formal rules with a distributed responsibility were not backed up by a system of punishment norms, which made them non-functional. At that stage there was no single technological base for solutions, in addition to economic and legal deficiencies.

### **4. Institutionalization of norms and rules, procedures.**

From 2000 to the present many legal acts are similar to the frameworks or model ones. New versions of the law redefine waste generated in residential premises in the process of consumption by individuals, as well as goods that have lost their consumer properties in the process of usage by individuals in residential premises in order to meet personal and domestic needs. In 2016 the reference books of the best available technologies appeared, and in 2017 - territorial schemes, but they didn't have a unique economic, technical and legal basis. It is due to the specifics of the development of different regions and individual tasks that they are asked to solve concerning the waste management.

### **5. Establishment of a system of sanctions to maintain norms and rules.**

The only available form of legal sanctions is administrative and criminal liability, the payment of fines, the amount of which is not strict enough in relation to the long-term and cumulative effects of environmental pollution.

### **6. Creation of a system of statuses and roles,**

covering all members of the institution without any exception. The system of statuses and roles for sustainable development is created within the old system. This means that more environmentally-oriented (and profitable for the economy) specialists will have a higher status in the new system of green economy.

### **Structural-functional analysis of subjects of waste management.**

The Federal Service for Environmental Technological and Nuclear Supervision

(Rostekhnadzor) monitors and controls compliance with legal requirements in the field of radioactive waste management, Rospotrebnadzor monitors compliance with health legislation when handling waste with the aim of ensuring safety for public health. The ministry of education controls and supervises the field of waste management, the Ministry of Education conducts the research and development of bio-technological priorities in the development of waste management, the federal antimonopoly service adopts regulatory legal acts on the calculation of regulated tariffs in the field of waste management, the Ministry of Industry conducts the development of technologies in the field of waste management.

The state authorities have three powers at once - the development and approval of regional waste management programs, the establishment of standards for their disposal, as well as control and supervision at sites that are subject to this regulation. Since 2015 the system has a regional operator, which should take responsibility for the collection, removal and disposal of solid municipal waste in order to relieve the municipal authorities from these duties. However a number of the above-mentioned responsible structures, including the regional operator in the territorial schemes, should be allocated in the final legal duties (to be subordinated to a certain area of sanctions), which does not occur throughout the chain from the beginning of production to utilization, since the bureaucracy accomplishes multiple, but limited set of responsibilities in different areas.

The activities of social subjects are regulated by formal and informal rules in different fields of interaction: economic, legal, socio-cultural. The levers of influence: - legislative regulation of citizens - provide municipal services. The executors are companies under a state contract and some non-commercial organizations on the basis of grants.

There are three instruments of government influence on the business sector: fines, charges for negative influence, licensing, taxes and fees as utilities but not in the framework of legislative policy.

If we consider the ideological basis of regulatory framework projects, the conditions for the projects implementation, and the projects themselves (the "clean country" is the priority within the framework of state policy now), we see that there is lobbying for certain technological priorities: incineration, reclamation of landfills.

New norms, rules and practices of environmentally oriented social agents are being introduced, which are eventually brought to the forefront.

At the moment, there is a mismatch of interests, including the interests within the framework of the formation of institutional rules for lobbying resource-saving policy and technology-oriented for landfills and waste incineration plant policy. Further policy in the sphere of waste disposal in the Russian Federation depends on the way (formal or informal) of their edition.

Table I presents the main waste management schemes in Russia.

Table I  
Schemes of waste management in Russia

| Control schemes of management | Realized in Russia                                                                                                                                                                                                             | What is necessary to finalize                                                                                                                                                                                              |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Centralized control scheme    | -Soviet period of regulation of the treatment of solid waste<br>-for the present moment the state has the opportunity to introduce a legislative policy and allocate responsibility for all subjects of the Russian Federation | - an implicit scheme of responsibility at each stage of waste management<br>-standards of legal responsibility are developed, an amendment for the regions in the technological equipment of the management of solid waste |





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|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Federal system (the most striking example is the USA) | - territorial schemes are developed for each subject of the Federation, taking into account the peculiarities of the region                                                                                                                                                                                      | -At present almost all territorial schemes are represented (except for two), they are an analysis of the current infrastructure and problems of the industry and the plan for the implementation of the utilization of solid waste<br>-The next step is to define the standardization of waste collection, best available technologies and tariff adjustment |
| Public Private Partnership                            | -tenders for companies manufacturing equipment and services for the removal and disposal of municipal solid waste<br>-cooperation with foreign companies in the production and implementation of equipment in Russia<br>-widely presented and domestic developments                                              | -developed and finalized the liability scheme of firms, reporting forms, the degree of participation in the formation of tariff for the consumer                                                                                                                                                                                                             |
| Participation of the shadow market                    | The shadow market in the Russian context is represented by unscrupulous firms in the export, utilization, and exploitation of equipment that negatively affects the state of the environment due to deficiencies in the EIA and the legal framework. It becomes "shadow" in terms of silence and illegal actions | -the rules of reporting for solid waste<br>-Environmental environmental impact assessments                                                                                                                                                                                                                                                                   |
| Territorial schemes With a regional operator          | Its allows to create an individual scheme for each region, taking into account the general program "clean country"                                                                                                                                                                                               | - 75 territorial schemes for 2017 have been developed<br>-no single structure of reports and actual capacities                                                                                                                                                                                                                                               |

The process of institutionalization continues with the reform of the industry in 1998, and has been especially active since 2010. However with the current model of the functional management in municipal solid waste in the Russian Federation, the solution of the tasks of organizing the collection and processing of waste is not included in the list of authorities of any of the agencies that have oversight and control functions, the disposal is carried out by the municipality, and processing by private enterprises.

### Summary

Despite the fact that the new version of the 8-point law on prevention, processing and environmental disinfection looks similar to that adopted in other countries in accordance with the hierarchy of waste management by Lansink (Yanitsky & Usacheva, 2017), in 2017, the "Clean Country" project contradicts the set reference points for resource saving, since the main emphasis is on the creation of new waste incineration plants, landfills in the urban areas, and the processing industry does not undergo significant improvements.

The disadvantages also include haste in creating territorial schemes; charges for burial and handling of waste for 2017 have not been worked out yet. There are several problems regarding the territorial schemes: the provision of territorial schemes is unstructured, in some cases they are poorly complemented by specific performance indicators, according to the waste hierarchy, the less ecofriendly methods (burial, waste incineration plant) are considered first.

The complexity of structural-functional links and subordination creates a labyrinth in the search for ultimate responsibility for the waste problem. It is necessary to clarify the use of administrative tools at every stage - from design of production to the final point of utilization.

## Conclusions

The analysis showed that waste management is consistent with the same set of problems that characterize the transition period to Zero Waste in Eastern Europe ten years ago. For example there are many features of the linear "brown" economic model of production, the raw material export development vector, "Dutch disease" - the availability of free space contributes to the expansion of landfills at the expense of the resources of the territory, the influence of the shadow market is great, waste is generated in large cities, but landfills are located in province areas that entail a multitude social conflicts and promotes the spread of zones of ecological inequality.

However the process of institutionalization is built from disorganized and dysfunctional elements (from the point of view of rational nature management, green economy, sustainable development) to an organized, functional one.

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