Waste Statistics in Belarus: Tight Spots and Broad Scope for Work[1]

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Abstract

The paper presents a study of waste statistics in Belarus based on the examination of Belarusian and European legislation, statistical reporting forms, and databases. The study reveals that the Belarusian statistics on waste faces three types of problems: those associated with the methodology, recording and coverage, and insufficient degree of international comparability of data, in particular, with the European Union countries. Such methodological problems as the blurred boundaries between the definitions of 'waste' and 'raw materials', the lack of criteria for categorizing substances or objects as waste, and the interchangeable use of the terms 'extraction rate' and 'recycling rate' in policy documents have a direct impact on the statistical data collection. Since less than half of the enterprises, which might generate industrial waste, report on it, the question arises whether the statistical data reflect the real level of waste generation, recycling, and disposal in Belarus. Data on municipal solid waste (MSW) have proved to be one of the most serious concern, in particular, because MSW is recorded in volume units. The differences between the Belarusian and European waste classifiers and definitions of key concepts ('waste', 'recycling rate') complicate the comparative data analysis. In order to promote the creation of the secondary raw material market and the development of waste recycling, attract investments, and encourage the transition to the green and specifically circular economy, Belarus should take steps to strengthen its information environment by improving the quality, international comparability, and access to its waste statistics.

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1. Introduction

Waste statistics is vital for analyzing the efficiency of resource use both at the enterprise level and at the economy-wide level. It is also important for monitoring the achievement of the Sustainable Development Goals and understanding the progress in implementing the green and circular economy principles. Despite the high interest in and the growing demand for waste statistics, many countries face problems associated with the data collection and quality, as well as the methodology used, which leads to incompatibility of indicators in the context of international comparisons.

The shortage, unreliability, and inconsistency of waste statistics significantly lessen the credibility of the investment strategies developed in the field of waste management and, therefore, negatively affect the country's attractiveness for the both foreign and domestic investments.

The problems with waste statistics mask the real picture of waste generation, recycling, and disposal. The lack of incentives for enterprises to provide reliable information, which results in the inability to accurately assess the market size for secondary raw materials from waste, hinders the development of waste re-use and recycling, thus, slowing down the formation of a circular economy in the country.

The quality of waste statistics largely depends on the timeliness, reliability, and international comparability of data. In this regard, this paper aims at highlighting the problem domains in waste statistics in Belarus, which would contribute to the identification of areas for further improvement in this sector.

The key international documents on environment statistics and environmental-economic accounts, such as the *Framework for the Development of Environment Statistics* (*United Nations, 2013*) and the *System of Environmental-Economic Accounting* (*United Nations, 2012*), offer only some general guidance on waste statistics, leaving important conceptual and methodological questions open to interpretation and different approaches. Eurostat and the Directorate General for Environment of the European Commission are developing solutions to improve waste statistics in the European Union (EU) countries. In particular, the *Rolling Review of Waste Generation and Treatment Statistics* (*Eurostat, 2014*) provides recommendations on strengthening the methodology harmonization and data comparability among countries. However, the problems of waste statistics remain not fully resolved in the EU countries.

As a result of the study, a number of similar problems affecting the quality of statistics in both the EU and Belarus have been identified:

- methodological problems;
- challenges with recording and coverage;
- insufficient degree of international comparability of data, in particular, with the EU countries.

The paper covers all these types of problems with waste statistics in Belarus and is structured as follows: section two is devoted to methodological problems; section three analyzes the problems of recording and coverage; and section four deals with the problems of the insufficient degree of international comparability of data, in particular, with the EU countries. The conclusion reflects the key findings.

2. Methodological Problems

Problem of defining 'waste'

One of the most pressing methodological problems, which directly affect the waste statistics in Belarus, is related to the excessively broad and vague definition of 'waste'. According to Law of the Republic of Belarus On Waste Management No. 271-Z dated July 20, 2007[2], waste means any substances or objects generated in the process of economic activity, human activity and having no specific intended use at the place of their generation or having lost all or part of their useful properties. As there are no clearly defined criteria for classifying substances or objects as waste and no separately identified categories of waste (see, for example, Annex I *Categories of Waste* to the Council Directive of 15 July 1975 on waste (75/442/EEC)[3]), enterprises are able to interpret this definition at their own discretion, as well as classify certain substances or objects not as waste and therefore file no reports on them. This situation with the concept of 'waste' makes it difficult to compare Belarusian and international statistics[4].

Blurred boundaries between different concepts in waste statistics

The boundaries between the concepts of 'waste' and 'raw materials' are often blurred in statistics both in Belarus and in the EU countries—it is not clear when waste turns into secondary raw materials. Law of the Republic of Belarus On Waste Management No. 271-Z dated July 20, 2007:

- does not define what kind of waste can be classified as secondary material resources[5];
- does not differentiate between the concepts of 'secondary material resources'[6] and 'secondary raw materials'[7], which may result in confusion in the process of their recording and subsequent data processing.

The concepts of 'extraction rate' and 'recycling rate' are used interchangeably in policy documents. For instance, the National Strategy for the Management of Municipal Solid Waste and Secondary Material Resources in the Republic of Belarus for the Period up to 2035[8] states that the municipal solid waste recycling rate was 15.6 % in 2015. However, Subprogram 6 *Management of Municipal Waste and Recycling of Secondary Material Resources* of the State Program *Comfortable Housing and Favorable Environment* for 2016-2020[9] characterizes this indicator as "the rate of recovery of secondary material resources from the municipal solid waste generated". In practice, recycling implies the process of waste reprocessing to manufacture products, generate energy, etc., while the extraction rate characterizes the amount of secondary material resources (SMRs) as a percentage of waste collected prior to the process of its actual reprocessing.

[2] Law of the Republic of Belarus On Waste Management No. 271-Z dated July 20, 2007. http://kodeksy-by.com/zakon_rb_ob_obrawenii_s_othodami.htm.

[3] Council Directive of 15 July 1975 on waste (75/442/EEC). https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1975L0442:20031120:EN:PDF.

[4] See more details in Section 4. Insufficient Degree of International Comparability of Data.

[5] Only paragraph 23, Chapter 5, Guidelines for Completing the Departmental Statistical Reporting Form "Report on Sanitation and Cleaning of Settlements" (1-sanochistka), specifies that: "Columns 2 to 8 reflect the amount of selected secondary material resources by categories: paper, cardboard, polymers, glass, textiles, metals, and wood. Column 8 is used to reflect the amount of other secondary resources: tires, batteries, etc."

[6] The waste, which is collected and can be put in the stream of commerce as secondary raw materials and for which there are waste recovery facilities available in the Republic of Belarus.

[7] The secondary material resources, which have been prepared for utilization to manufacture products, generate electricity and/or heat, perform work, provide services in accordance with the requirements specified in technical regulations.

[8] The National Strategy for the Management of Municipal Solid Waste and Secondary Material Resources in the Republic of Belarus for the Period up to 2035 https://www.mjkx.gov.by/vtorichnye-mat-resursy/item/481-natsionalnaya-strategiya.

[9] State Program *Comfortable Housing and Favorable Environment* for 2016-2020 http://www.government.by/upload/docs/file8c3586a94739667b.PDF.

The European Commission plans to amend the legislation to prevent classification of secondary raw materials as waste if they meet certain criteria. The amendment is meant to simplify the legislative framework for operators in the recycling business (*EUROCHAMBRES, 2016*).

3. Recording and Coverage

Problem of data accuracy rooted in the decentralized system of statistical reporting on waste

There are several statistical reporting forms on waste collected by various ministries. The data go quite a long way until they get to the destination databases, which may affect the accuracy of final data.

Official statistical reports are filed to:

- *the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus* – on industrial waste (form 1-waste (Ministry of Natural Resources) "Report on Industrial Waste Management");
- *the National Statistical Committee of the Republic of Belarus* – on scrap and waste containing precious metals (form 1-mr (precious metals) "Report on Precious Metals Balance, Entry, and Use, Scrap and Waste Containing Precious Metals"); on costs associated with protecting the environment from pollution with industrial waste (form 1-os (costs) "Report on Current Environmental Protection Costs");
- *the Ministry of Industry of the Republic of Belarus* – on ferrous and non-ferrous metal scrap and waste (form "Data on Ferrous and Non-Ferrous Metal Scrap and Waste Balance, Entry, and Use");
- *the Ministry of Housing and Utilities of the Republic of Belarus* – on secondary raw materials (form "Report on Procurement and Supply of Secondary Raw Materials, Discarded Goods", "Report on Entry of Secondary Raw Materials, Discarded Goods"); on municipal solid waste and secondary raw materials recovery from municipal waste (form 1-sanochistka "Report on Sanitation and Cleaning of Settlements").

The flow of statistical reports on waste is shown in Annex Figure 1.

Within the framework of the primary statistical data collection, processing, and analysis, the RUE "Bel RC «Ecology»" is responsible for maintaining the State Waste Cadaster. However, there is no publicly available single information resource that would give a complete picture of waste streams and their movement, including industrial waste in accordance with the classifier, municipal solid waste, and secondary material resources. This complicates both the analysis of the situation in this sector in Belarus and the promotion of investments in it.

In the EU, the best publicly available source of information is the database at Eurostat's website[10], which contains information on waste generation by type and industry, waste stream management, trade in recyclable raw materials, etc.

Insufficient coverage of respondents with statistical reporting on waste

It is almost impossible to estimate the extent, to which the collected statistics reflect the actual level of waste generation, recycling, and disposal in Belarus, since not all the enterprises provide statistical data on waste management for various reasons (for example, because they treat it as raw materials).

The key reporting form for waste data collection is form 1-waste (Ministry of Natural Resources) "Report on Industrial Waste Management". It is to be filed by legal entities, autonomous subdivisions of legal entities that carry out activities related to the industrial waste management (except for legal entities, autonomous subdivisions of legal entities, which generate only industrial waste similar to household waste, paper and cardboard waste from clerical activity and office work, unpolluted

[10] Eurostat/Environment/Waste/Database. http://ec.europa.eu/eurostat/web/environment/waste/database.

packaging waste, waste fluorescent tubes, waste mercury lamps, if the total volume of such waste is 50 tons per year or less). Based on expert estimates prepared by the RUE "Bel RC «Ecology»"[11], only about 10,000 respondents file these forms, while as of January 1, 2018, Belarus had 16,316 legal entities in industry, 5,081 ones in agriculture, forestry and fishing, and 10,521 ones in construction (*National Statistical Committee of the Republic of Belarus, 2018*).

Since less than half of enterprises file their reports on waste, the following questions arise:

- Why do legal entities file no statistical reports?
- Is it true that all the other entities generate only industrial waste similar to household waste etc., which volume does not exceed 50 tons?
- How should the accountability of legal entities for filing reports on waste be strengthened?

The incomplete coverage of respondents is a fairly common problem in international waste statistics. In a number of the EU countries, the difference between the amount of waste generated and that delivered to recycling and disposal facilities may reach 50 % for some waste streams. For example, official statistics in the Netherlands does not offer an answer to the question what happened to more than 50 % of the generated waste electronic and electrical equipment that was not delivered to recycling and disposal facilities or was not registered as part of mixed waste. As a result, it is unclear whether the missing quantity is mixed with other waste, whether it is collected informally, sold illegally or stored by households (*K. Baldé, 2015*).

Incomplete coverage of important waste aspects by statistics

Both in the EU countries and in Belarus, some parts of waste that have negative impacts on the environment, human health, and the economy, are not or only partially covered by official statistics:

- illegally traded waste;
- illegally dumped waste;
- theft of waste with economic value;
- informally collected waste;
- waste from private sector.

The Conference of European Statisticians held on October 11-12, 2016, (*UNECE and the Netherlands, 2016*) noted that one of the problems is that official statistics fail to cover such important issues as the economic and disposal value of waste. In Belarus, the prices for purchasing "traditional" SMRs from private individuals and legal entities are publicly available. However, to develop the secondary raw materials market it seems advisable to consider further expansion of the range of items, which prices are published.

It should be noted that the collection of some categories of waste in Belarus has been introduced relatively recently that correspondingly affects the quality of and access to statistics on these waste streams: the collection of used batteries was launched in 2011; that of waste electrical and electronic equipment – in 2013; the centralized collection of waste electrical and electronic equipment, mercury vapor lamps, and batteries from households at retail trade facilities – in 2015.

Indirect recording of municipal solid waste

Collection of municipal waste[12] is performed by utility providers and legal entities, autonomous subdivisions of legal entities that have special-purpose motor vehicles on their balance sheet and

[11] RUE "Bel RC «Ecology»" http://www.ecoinfo.by/.

[12] Municipal waste is consumption waste and industrial waste, which is on the List of Municipal Waste, Disposal of Which is Organized by Local Executive and Administrative Bodies, approved by the Ministry of Housing and Utilities of the Republic of Belarus. According to the List of Municipal Waste (approved by Resolution of the Ministry of Housing and Utilities No. 21 dated November 30, 2001), it includes household waste, street and yard sweepings; waste of research, education, training, sports, cultural, information, and religious activities; trade, social, and transportation waste; waste of administrative and economic activities; medical waste.

engage in activities related to mechanized cleaning of settlements and/or municipal waste management. And the volume of municipal solid waste (MSW) is calculated indirectly, based on the number of special-purpose motor vehicles involved in its removal from settlements. This results in concerns about the accuracy of recording this category of waste, since the vehicle filling level is not taken into account.

Moreover, while all the other categories of waste are recorded in mass units, MSW is recorded in volume units[13], which leads to additional problems with waste statistics, since the value of the conversion factor—the average density of municipal solid waste at collection sites is about 200 kg/m3[14]—used for converting MSW into mass units has a big effect on the final data.

The problem of recording MSW and secondary material resources (SMRs) is addressed in official policy documents. For example, the National Strategy for the Management of Municipal Solid Waste and Secondary Material Resources in the Republic of Belarus for the Period up to 2035[15] stresses the need for improving the systems of MSW and SMRs reporting and analytical recording, starting from waste generation sources and up to waste disposal. It is also essential to revise the methods of determining the MSW morphological composition and generation standards to make the results more reliable.

The existing departmental system of MSW and SMRs recording does not offer unbiased information about their actual flows. Belarus has got no unified system of weight recording at disposal sites. The existing "paper-based" system does not prevent potential "double counting" of SMRs collection. According to the National Strategy for the Management of Municipal Solid Waste and Secondary Material Resources in the Republic of Belarus for the Period up to 2035, the actual volume of MSW generation in the Republic of Belarus, including SMRs, ranges from 3 to 3.65 million tons per year that is 15-20 % lower than the existing official estimates[16]. This reinforces the urgency of creating a modern system of recording.

The EU also faces problems with MSW (municipal solid waste) estimates. The EU Recycling rate harmonisation project – National Definitions and Accounting Methods (*CIWM / SOENECS Ltd, 2015*) shows that the EU member states cover different categories of basic materials with their definitions of 'municipal solid waste', in some cases including even construction and demolition waste (CDW). According to the Directive of the European Parliament and of the Council of 19 November 2008 on waste (*2008/98/EC*[17]), member states can choose among four methods to calculate their municipal solid waste recycling rates. However, depending on the method chosen, the indicators 'municipal solid waste quantity' and 'recycling rate' will differ significantly—the difference for the quantity may exceed 100 % and that for the recycling rate ranges from 6 to 15 percentage points (*CIWM / SOENECS Ltd, 2015*).

Incomplete recording of waste accumulated in past years

The recording of waste accumulated in past years is a separate issue. For instance, the latest estimates show that 10,632 tons of obsolete pesticides are identified in Belarus (*UNECE, 2016*). This is a conservative estimate as clean-up works on individual underground storage sites may reveal additional pesticides or soil polluted by them.

[13] The published MSW data in cubic meters is based on estimates, while data in tons are a result of combining direct MSW weighing and conversion of cubic meters into tons (*UNECE, 2016*).
[14] TCP 17.11-02-2009 (02120/02030). Municipal solid waste disposal sites. Design and operation rules.
[15] The National Strategy for the Management of Municipal Solid Waste and Secondary Material Resources in the Republic of Belarus for the Period up to 2035 https://www.mjkx.gov.by/vtorichnye-mat-resursy/item/481-natsionalnaya-strategiya.
[16] The National Strategy for the Management of Municipal Solid Waste and Secondary Material Resources in the Republic of Belarus for the Period up to 2035 https://www.mjkx.gov.by/vtorichnye-mat-resursy/item/481-natsionalnaya-strategiya.
[17] Directive of the European Parliament and of the Council of 19 November 2008 on waste (2008/98/EC). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0098.

4. Insufficient Degree of International Comparability of Data

Differences in key terms used in Belarus and internationally, in particular, in the EU

As noted earlier, the international comparability of data is essential to mobilize foreign investments in the area of waste management. Such data also facilitate assessments of the country's progress in implementing the best international practices and identification of the tight spots.

Policy documents also highlight the need to improve the degree of international comparability of data. One of the goals set out in the National Strategy for the Management of Municipal Solid Waste and Secondary Material Resources in the Republic of Belarus for the Period up to 2035 [18] is to assess the current situation with MSW and SMRs in Belarus in the context of the international experience.

The definition of waste used in the Republic of Belarus covers not all the rejects[19], as those generated in the production process[20] are not classified as waste. That complicates comparisons of Belarusian and European statistics as, according to Article 1 (a) of the Council Directive of 15 July 1975 on waste (75/442/EEC), waste in the EU includes the products not meeting the technical specifications (Q2 Off-specification products). In the EU, waste also includes animal faeces (09.3 Animal faeces, urine and manure), while in Belarus, these livestock products are not classified as waste, therefore no relevant data are collected within the framework of statistical reporting on waste, although such information could be valuable for planning the production of fertilizers, energy, etc.

A similar situation is observed with the category 'waste recycling'. According to Law of the Republic of Belarus On Waste Management No. 271-Z dated July 20, 2007[21], waste recycling means the utilization of waste to manufacture products, generate energy, perform work, provide services. Under Article 3 of the European Parliament and Council Directive of 20 December 1994 on packaging and packaging waste (94/62/EC)[22], waste utilization for energy generation is not covered by recycling[23]. Thus, Belarus' category of 'waste recycling' is broader than that used in the EU as it also includes waste use for energy generation.

It should be stressed that in the EU countries, the total 'recycling rate' for all the waste streams and separately for construction waste is calculated as a share of total waste for recovery, excluding energy recovery and backfilling, in total waste sent for recovery and disposal operations. Thus, in the EU countries, waste recycling is monitored at its delivery to recycling and disposal facilities. In Belarus, to begin with, the indicator of the total rate of waste recycling is not calculated by official state statistical authorities, and secondly, since a significant part of such waste is locked up at storage sites, including enterprise sites, it is not relevant to calculate this indicator using the EU methodology as it would not reflect the real situation with its recovery (recycling).

[18] The National Strategy for the Management of Municipal Solid Waste and Secondary Material Resources in the Republic of Belarus for the Period up to 2035 https://www.mjkx.gov.by/vtorichnye-mat-resursy/item/481-natsionalnaya-strategiya.
[19] The names of certain wastes used in the classifier include the term 'rejects', e.g. unused paper filters, rejects, metallurgical and foundry rubble (rejects), polyamide (rejects, trimmings) etc.
[20] Production rejects are products (goods, intermediate products, details, etc.) not meeting the requirements of quality standards, technical specifications, and other technical regulations.
[21] Law of the Republic of Belarus On Waste Management No. 271-Z dated July 20, 2007. http://kodeksy-by.com/zakon_rb_ob_obrawenii_s_othodami.htm.
[22] European Parliament and Council Directive of 20 December 1994 on packaging and packaging waste (94/62/EC). https://eur-lex.europa.eu/legal-content/en/ALL/?uri=celex:31994L0062.
[23] Recycling means the reprocessing in a production process of the waste materials for the original purpose or for other purposes including organic recycling but excluding energy recovery.

Low degree of comparability of Belarus' waste classifier and that used internationally, in particular, within the EU

Another problem is associated with the low degree of comparability of the waste classifier[24] used in Belarus and the European waste statistical nomenclature[25] that complicates international comparisons.

Table 1 offers the aggregate types of waste in Belarus compared to those types of waste in the EU countries, data on which are publicly available[26].

Table 1. Aggregate waste types in Belarus vs the EU countries

No.	Waste types in Belarus	Similar waste types in the EU
1	2	3
1	Waste of food production; Waste of flavor product production; Food waste; Vegetable and animal oils production waste; Vegetable and animal fat and grease production waste; Waste containing vegetable and animal fat products; Vegetable oil waste products; Slime (sludge) containing vegetable and animal fat products; Vegetable and animal fat refining residues	09.1 Waste of food preparation and products
2	Hide and fur waste; Waste of tanyards (except for tannins); Leather waste; Waste of plant fiber processing; Waste of chemical fibers and threads, textile waste and sludge; Polluted textiles; Other textile waste	07.6 Textile wastes
3	Waste of wood processing and milling	07.5 Wood wastes
4	Waste wood from logging and cutting areas	09.2 Green wastes
5	Paper and cardboard production waste; Paper and cardboard waste	07.2 Paper and cardboard wastes
6	Furnace fragments (breakage), metallurgical and foundry rubble (rejects); Metallurgical slags, dross and dust; Other mineral solid waste; Mineral sludge; Other mineral waste, including product refining waste	12.1 Mineral waste from construction and demolition; Other mineral wastes; 12.6 Soils; 12.7 Dredging spoils; 07.1 Glass wastes
7	Ash, slag, and dust from heat treatment of waste and from furnaces	12.4 Combustion wastes
8	Ferrous metal scrap and waste	06.1 Metal wastes, ferrous;
9	Non-ferrous metal scrap and waste	06.2 Metal wastes, non-ferrous; 08.41 Batteries and accumulators wastes
10	Complex mixed waste in the form of products, equipment, and devices; Waste containing polychlorinated biphenyls, biphenyls, and terphenyls, polybrominated biphenyls, as well as waste substances and objects containing them	07.7 Waste containing PCB; 08A Discarded equipment (except discarded vehicles and batteries and accumulators waste)
11	Metal sludge	06.3 Metal wastes, mixed ferrous and non-ferrous

[24] As amended by Resolution of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus No. 63 dated December 31, 2010, https://otxody.by/klassifikator-otxodov-dlya-belarusi-skachat/.
[25] Regulation (EC) of the European Parliament and of the Council of 25 November 2002 No 2150/2002 on waste statistics. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32002R2150.
[26] Eurostat/Environment/Waste/Database. http://ec.europa.eu/eurostat/web/environment/waste/database.

Table 1 (continued)

1	2	3
12	Galvanic sludge; Waste oxides, hydroxides; Saline waste; Inorganic acid waste; Alkaline waste; Waste solutions and wash water	01.2 Acid, alkaline or saline wastes
13	Organic acid waste; Spent halogen-containing solvents and their mixtures; Organic solvents, their mixtures and other organic liquids not containing organic halogen compounds; Solvent-containing sludge	01.1 Spent solvents
14	Obsolete pesticides (except for those classified as persistent organic pollutants); Hygiene product waste; Pharmaceutical waste and pharmaceutical production waste; Waste paintwork materials; Waste glues, adhesives, mastics, resins; Laboratory waste and chemical residues; Waste detergents and cleaners	02A Chemical wastes
15	Waste synthetic and mineral oils; Waste greases and paraffins from mineral oils; Waste emulsions and mixtures of petroleum products	01.3 Used oils
16	Mineral oil sludge, residues containing petroleum products; Petroleum product refining residues	03.2 Industrial effluent sludges
17	Hardened plastics waste; Polymer sludge and emulsion	07.4 Plastic wastes
18	Waste containing rubber (including used tires)	07.3 Rubber wastes
19	Medical waste of human health protection; Medical waste of veterinary services; Waste of drugstore and pharmaceutical services; Waste of health research; Other medical waste not included in groups A, B, C, D	05 Health care and biological wastes
20	Water treatment sludge of boiler and heat economy; Drinking water treatment sludge; Waste water treatment sludge; Rainfall water treatment sludge	11 Common sludges
21	Household waste and industrial waste similar to household waste	10 Mixed ordinary wastes

Source: own presentation.

5. Findings and Recommendations

The study reveals that the Belarusian statistics on waste faces a number of problems associated with the methodology, recording and coverage, and insufficient degree of international comparability of data, in particular, with the EU countries.

The vague definition of ‘waste’, the lack of criteria for categorizing substances or objects as waste and information about the specific number of respondents, who are to complete reports on production waste management, give enterprises considerable freedom in submitting statistical information as to what kind of waste to include, how accurately it is to be recorded, and generally whether to complete reports or not. The degree of accuracy of the final data may be affected due to the decentralization of the statistical reporting system. At the same time, there is no publicly available single information resource that would give a complete picture of waste streams and their movement. The existing system of recording MSW and SMRs does not provide unbiased information about their real quantity. All these problems hinder the assessment of the real level of waste generation, recycling, and disposal.

Waste management is an important component of the circular economy. Therefore, the quality of data on waste can either contribute or hinder its development in the country. Accurate data on the quantity and quality of generated waste are needed to develop and implement business models associated with the re-use of products and materials, which formerly turned into waste at the end of their life cycles. To preserve and maintain the natural capital at an inexhaustible level, it is advisable to develop the market of secondary raw materials, which is also affected by the availability and reliability of data. Identification and prevention of negative external effects of the current production activities are impossible without an integrated monitoring system.

The following measures would contribute to improving the quality of analysis of resource use in the country, promoting the mobilization of foreign investments in the area of waste management, expanding the recycling, and understanding Belarus' position in the system of international indicators:

- aligning the definition of 'waste' with the international one, identifying clear criteria for classifying substances or products as waste and secondary raw materials;
- considering the option of simplifying some forms of statistical reporting on waste;
- expanding access of end users to data on waste streams and their movement;
- strengthening the accountability of entities for filing reports on waste;
- improving the system of MSW and SMRs reporting and recording, and introducing MSW recording based on weighing if possible;
- considering the option of improving the comparability of Belarus' waste classifiers with the European waste statistical nomenclature;
- developing an integrated monitoring system based on measuring the progress towards the green and specifically circular economy at all stages of the life cycle of resources, products, and services.

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Annex 1

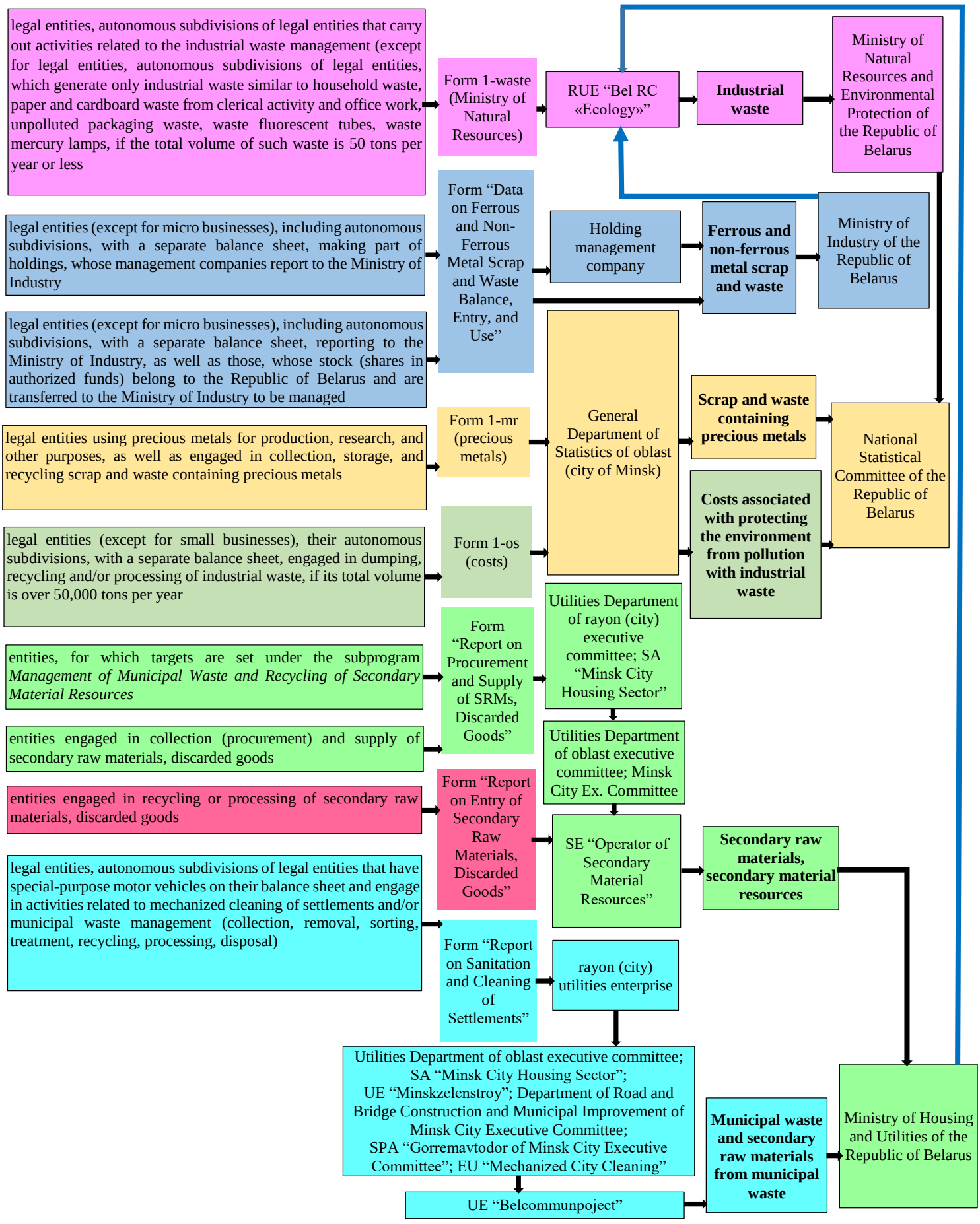

Figure 1. Flow of statistical reports on waste