

Use of Administrative Data for Waste Statistics in the Czech Republic

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Abstract

The Czech Statistical Office (CZSO) changed the calculation of the total volume of waste and also changed the definition of municipal waste compared to the previous methodology. This was made possible by the wider use of the existing administrative data source, the Integrated Environmental Reporting System (ISPOP). The change in the definition of municipal waste was a response to recent Eurostat activities, which led to a more precise definition. The original method no longer meets this definition.

Keywords

Waste, municipal waste, Eurostat, Ministry of the Environment, ISPOP, administrative data

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INTRODUCTION

Economies all over the world are facing new challenges associated with global warming, dwindling raw material resources, and population growth. Efforts to promote the principles of an emission-free industry, circular economy, more environmentally friendly approach to nature and environmental protection, and Green Deal policy in general must be necessarily reflected in reducing the amount of waste produced and striving for its efficient use.

1 EUROPEAN COMMISSION LEGISLATION

The Regulation (EC) No 2150/2002 of the European Parliament and of the Council on waste statistics was adopted on 25 November 2002 by the European Commission. Basic concepts, methods of waste management as well as rules for waste treatment are defined by the Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008, which was supplemented by the Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018. Reporting obligations on waste in the Czech Republic are divided between the Czech Statistical Office (CZSO) and the Ministry of the Environment.

The CZSO is responsible for fulfilling the reporting obligations arising from the Regulation (EC) No 2150/2002 – Regulation on Waste Statistics. The Ministry of the Environment fulfils the obligations

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arising from the Directive 2008/98/EC, the Directive (EU) 2018/851, and other international agreements. From 2020 onwards, the CZSO – beyond the scope of the Regulation (EC) No 2150/2002 – is also obliged to report data on municipal waste. Until that time, data on municipal waste production and management were sent according to the Joint Questionnaire of Eurostat and OECD. Reporting by the Joint Questionnaire was voluntary. While the Czech Statistical Office used information obtained from the ODP 5-01 sample statistical survey (Annual report on waste and secondary raw materials), including data on municipal waste, to fulfil its obligations, the Ministry fulfils its obligations on the basis of information obtained from the Integrated Environmental Reporting System (administrative system of waste records in Czech abbreviated as ISPOP).

2 COOPERATION BETWEEN THE CZSO AND THE MINISTRY OF THE ENVIRONMENT

The issue of different data on waste production published by the CZSO and the Ministry of the Environment has been addressed since 2009. At the same time, duplicate monitoring of identical indicators on the statistical report and within the data collected by the Ministry of the Environment was also criticised. A significant impetus for resolving different data on waste was the signing of the so-called Agreement between the CZSO, the Ministry of the Environment, and the Office of the Government of the Czech Republic on reporting municipal waste production in the Czech Republic from 20 January 2016. Another impetus was the fact that the EU focused more and more on information on municipal waste in connection with setting requirements to limit the dumping of municipal waste in landfills. The result was the acceptance of the obligation to report data on the production and management of municipal waste annually.

The CZSO focused on a gradual transfer of data from the ISPOP system, which is operated by the Ministry of the Environment in cooperation with the Cenia agency. The CZSO first focused on an analysis of the consistency of reported data in both systems for the segment of municipalities. A high degree of compliance of the reported data between the two systems was found. Therefore, the CZSO started to replace the data from the ODP 5-01 report from municipalities with data from the ISPOP system for the reference year 2018. This was followed by the replacement of data from business entities from the ODP 5-01 by the data of the Ministry of the Environment.

3 METHODOLOGICAL ISSUES

Prior to taking over the ISPOP data, it was necessary to convert the classifications used in the ISPOP to the classifications required by the Regulation (EC) No 2150/2002 on waste statistics. In particular, the conversion of waste codes according to the List of Waste into the European Waste Classification for Statistics (EWC-STAT), the determination of the origin of waste, and the method of waste management. Despite initial problems, after consultation with Eurostat, the converters were set up.

The European Waste Classification for Statistics (EWC-STAT) strictly (if the nature of the waste allows) respects the material from which the waste originates, in contrast to the List of Waste (LoW), which also takes into account the sector (activity) from which the waste originates. For example, glass is included in the List of Waste into groups as follows:

- 10 11 – Wastes from glass and glass products production,
- 15 01 – Packaging,
- 16 01 – End-of-life vehicles and waste from the dismantling of these vehicles,
- 17 02 – Wood, glass, plastics (from construction and demolition),
- 19 12 – Wastes from waste treatment,
- 20 01 – Materials from separate collection,

while in the EWC-STAT classification all waste glass belongs to the group 07.1 – Glass waste. The same goes for metals, paper, plastics. Both used data sources – ISPOP and ODP 5-01 – monitor waste according

to the List of Waste codes. The conversion to the EWC-STAT classification must therefore be performed regardless of which data source we use. As part of the processing in the CZSO data market, a converter from the LoW classification to the EWC-STAT is stored; the opposite conversion is not possible or unambiguous. Both ISPOP and ODP 5-01 use the Classification of Economic Activities (CZ-NACE), which corresponds to the European standard of the Statistical Classification of Economic Activities in the European Community, Rev. 2 (NACE Rev. 2) to determine the sector of origin of waste.

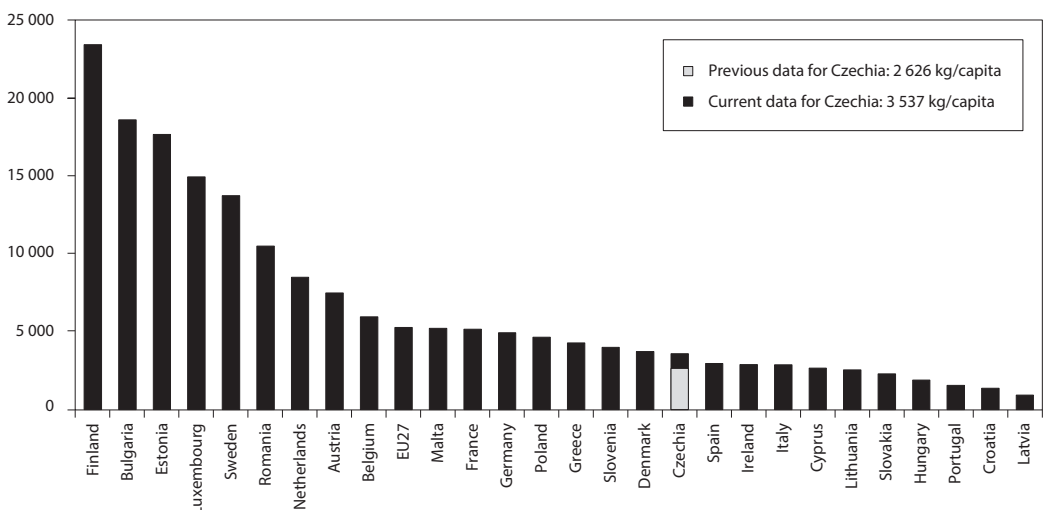
Waste management methods – here the classification used in ISPOP is broader and more detailed than in the Regulation (EC) No 2150/2002 on waste statistics. According to this regulation, only final waste management codes (R – recovery or D – disposal) have to be reported. The Czech classification also uses so-called N (national) codes. The assignment of Czech disposal codes to the European system was consulted with Eurostat and is described in the material "Mathematical expression of the calculation of the system of waste economy indicators" prepared by the Cenia agency.

Earlier requirements of the CZSO for the transmission of data sets and their form also changed. With the gradual expansion and change of the database environment at the CZSO, conditions were created for the transfer of complete data from the ISPOP system. The CZSO was thus able to make full use of data from the ISPOP system for its needs.

4 USE OF ADMINISTRATIVE DATA

The decision on the wider use of administrative data is the result of an analytical evaluation of the compatibility of the data obtained by the statistical report ODP 5-01 and the data reported within the Integrated Environmental Reporting System (ISPOP). It has been repeatedly proven that in a comparable set of respondents there is a high degree of compliance between the two data sources. The scope of the new data source, which also covers enterprises below the threshold for inclusion in statistical monitoring, improved the coverage to almost the entire population, and thus enhances the quality of the presented results. Another advantage of the ISPOP is the possibility of obtaining data according to local units, which will enable the improvement of information on the regional distribution of waste production within the Czech Republic. There is a unique link in the system between the local unit code and the identification

Figure 1 International comparison of waste generated in kilograms per capita (2018)



Source: Eurostat

number of the company/institution/organisation, so it is possible to exclude internal consumption and construct the same data as if reported by the company as a whole.

In the ISPOP system, there is an obligation to report waste data for all entities producing waste above a specified limit (100 tonnes of total waste or 100 kg of hazardous waste).

According to updated results, a total of 37.0 million tonnes of waste was produced in the Czech Republic in 2019, by 634 thousand tonnes less than in 2018. In 2019, the most waste was produced in the Středočeský Region and in Prague, where the volume exceeded 5 million tonnes. The least waste was produced in the Karlovarský Region, in which just over 680 thousand tonnes of waste was generated. 2.6 million tonnes of waste were imported to the Czech Republic, exports amounted to 3.4 million tonnes.

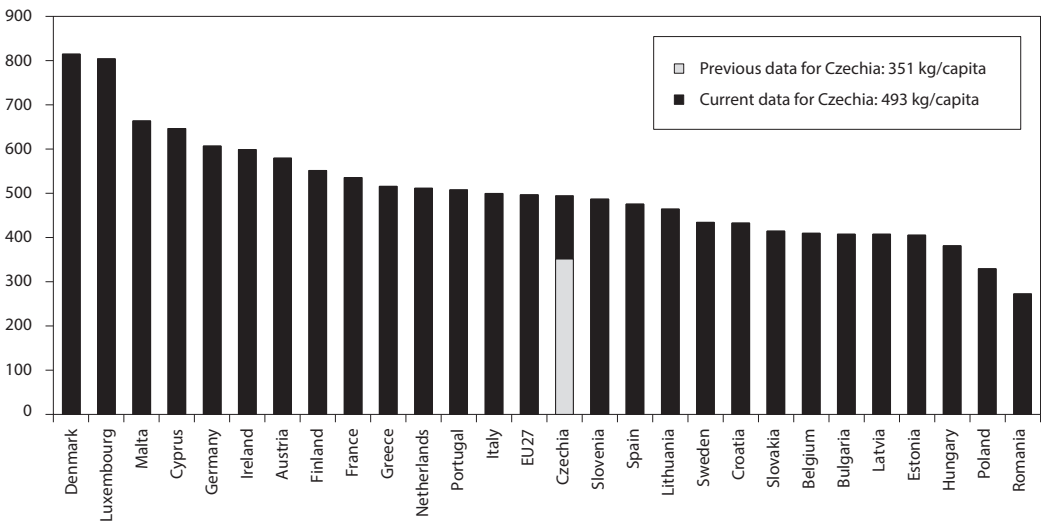
CONCLUSION – CHANGING THE DEFINITION OF MUNICIPAL WASTE

The methodology of compiling the indicator of municipal waste production also underwent changes. The definition of the term used for the Joint Questionnaire of Eurostat and OECD allowed different interpretations; however, for mandatory reporting since 2020, the interpretation of the term municipal waste has been clarified.

Waste produced by households and waste that is comparable in nature and composition to household waste, with the exception of waste from production and waste from agriculture and forestry is considered to be municipal waste. Newly, this indicator also includes waste from enterprises collected outside the municipal collection system, which is similar in nature and composition to household waste and does not come from production. It also includes waste from citizens that is not collected through municipalities. The new methodology reflects the forthcoming changes at the Eurostat level. The methodology for creating the indicator of municipal waste production was widely consulted with Eurostat staff, and external experts from the domestic academic sphere that took part in the audit group.

5.3 million tonnes of municipal waste were generated in 2019, which was by 1.7% more than in the previous year. Municipal waste accounts for about 14% of total waste production. In 2019, there was a total of 499 kg of municipal waste per capita, 6 kg more than a year earlier.

Figure 2 International comparison of municipal waste generated in kilograms per capita (2018)



Source: Eurostat

The use of administrative data for the creation of statistical information has several advantages. The positive effect is undoubtedly a reduction in the administrative burden on respondents. The number of respondents completing the statistical report ODP 5-01 decreased first in 2018 in the segment of municipalities and later in the segment of enterprises. The number of respondents could thus decrease from the original roughly 8 thousand to 1.2 thousand in 2020 while maintaining the quality of data.²

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² A new publication *Generation, Recovery and Disposal of Waste – 2020*, published by the CZSO on 30.11.2021, contains the latest results of waste statistics. Available online at: <<https://www.czso.cz/csu/czso/generation-recovery-and-disposal-of-waste-2020>>.