Municipal Waste Statistics

A COMPARISON ON THE METHODOLOGIES
BETWEEN CZECH REPUBLIC, GERMANY, AUSTRIA,
POLAND, AND SLOVAK REPUBLIC

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Introduction

Waste statistics is an important indicator for governments and societies to collect and understand. Waste statistics tells us indirectly how much we have consumed and potentially how much environmental impact we have created, especially in the context of climate change policy making, such as the Sustainable Development Goals.

However, in the European Union, there are differences in methodologies on the collection of municipal waste data in each member country. This is often due to some of the following reasons: political structure of the country, or waste management systems of the country[1]. For example, due to the political union of the United Kingdom itself, which is made up of England, Wales, Scotland, and Northern Ireland, each region in the UK has different waste management strategies. This is especially evident in some regions where they are less into recycling than others (London)[2]. A noticeable difference in waste management across EU countries is that some countries have a deposit system for plastic bottles, e.g. The Netherlands, while some countries do not have such system, e.g. France.

In this report, we will explore the methodological differences on collecting municipal waste statistics between the Czech Republic, Germany, Austria, Slovak Republic, and Poland. This report will start with an overview on the guidance of municipal waste data collection from Eurostat, description of each countries' methodology on collecting municipal waste data, and then a final remark on these differences.

Due to the unavailability of sources in English from the respective countries' websites, I have either used Google Translate from the original language to English or have contacted the statistical offices for further clarification and direction.

Overview on Municipal Waste Statistics

Eurostat has clearly defined that, "Municipal waste covers household waste and waste in similar in nature and composition to household waste.", in their document called, "Guidance on municipal waste data collection"[3]. This means that household waste is a part of municipal waste. In the same document Eurostat has outlined specifically what should be covered under municipal waste, concerns regarding municipal waste, etc. The document in general provides an overview on municipal waste data process.

On the Eurostat metadata[4], it has been clearly defined as to what municipal data covers. Wastes such as the paper, glass, plastics, garden waste, food waste, metals, textiles, as well as larger items such as sofas or mattress, are all included in the definition of municipal waste. Other wastes generated by small enterprises, local businesses, offices, and local institutions are also included in the definition. However, waste from the sewage and construction are not included in this statistic.

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[1] https://www.unece.org/fileadmin/DAM/stats/publications/2017/Issue3_Waste.pdf
[2] https://www.eea.europa.eu/publications/managing-municipal-solid-waste/united-kingdom-municipal-waste-management
[3] https://ec.europa.eu/eurostat/documents/342366/351811/Municipal+Waste+guidance/bd38a449-7d30-44b6-a39f-8a20a9e67af2
[4] https://ec.europa.eu/eurostat/cache/metadata/en/env_wasmun_esms.htm

The metadata has noted that countries might differ in minute details, scope, and coverage of municipal waste data. This is mainly due to the different waste management practices. The municipalities can decide specifically which small enterprises, local businesses, and offices would be included. The Eurostat metadata has also cautioned that only some local institutions such as schools and hospital are included in the municipal waste data. There could also be some measurement error when collecting municipal waste data, such as dehydration when dealing with food or garden waste, export or import of waste, or double counting of some waste when waste goes through different treatment processes.

Municipal Waste Data Methodology

In this section, each country's methodology on the collection and aggregation of municipal waste data will be presented. In the following section, a comparison between the countries will resume.

Czech Republic[5]

Currently in the Czech Republic, municipal waste data is determined through the use of administrative data and sample survey from municipalities with the combination of mathematical/statistical estimation. Municipal waste in Czech Republic covers all waste generated within the municipality by the activity of any natural persons.

Germany[6] [7] [8] [9]

In Germany, all public and private entities report the collected waste to the authority of each federal state. This also includes recycling companies as well. The Federal Statistical Office of Germany then receives all relevant information from each federal state, and then use it to calculate the amount of waste for the whole Republic.

The data on municipal waste provided by each federal state is categorized based on waste codes from the European List of Waste (2000/532/EC) and then compiled by the Federal Statistical Office of Germany. These data provided from federal states also includes recycling data and export or import of waste. The municipal waste statistics are then compiled from the different waste codes and waste streams. In addition, all waste treatment facilities in Germany receives a questionnaire on the waste they have received or collected.

Slovak Republic[10]

In Slovak Republic, there is an annual survey which is sent out to all municipalities, where each of the municipality reports the statistical data on municipal waste to the Statistical Office of the

[5] https://www.czso.cz/documents/10180/91605329/28002019.pdf/9ee05f2d-39d8-4215-b4ee-849b7761433f?version=1.2
[6] https://www.umweltbundesamt.de/daten/ressourcen-abfall/abfallaufkommen#deutschlands-abfall
[7] https://www.umweltbundesamt.de/en/indicator-amount-of-waste-municipal-waste#environmental-importance
[8] https://erhebungsportal.estatistik.de/Erhebungsportal/#EXpINcAopmomSUcP/unterstuetzte-statistiken/umwelt/abfallwirtschaft/abfallentsorgung/fragebogen
[9] https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Umwelt/Abfallwirtschaft/Publikationen/Downloads-Abfallwirtschaft/abfallbilanz-pdf-5321001.pdf?__blob=publicationFile
[10] http://datacube.statistics.sk/#!/view/en/VBD_SK_WIN/zp1005rs/v_zp1005rs_00_00_00_en

Slovak Republic. The municipalities receive data on waste from the different waste management companies they work with.

Austria[11]

The municipal waste statistics are compiled by the Environment Agency Austria, and not by Statistics Austria. All data in Austria are reported through an online database called Electronic Data Management. The Environment Agency then collects the data directly from the online system.

In particular, the municipal waste statistics in Austria is made of several components[12]:
- The municipal waste from each municipality is collected by the population statistics division of Statistics Austria.
- The statistics of disposed electrical and electronic waste, for each federal state, such as batteries or computers, is reported by the WEEE (Electronic and Electrical) coordination office.
- The data on packaging is separately reported by ARA Altstoff Recycling Austria AG to the Environment Agency Austria.

Poland[13] [14]

The main source of municipal waste data is from municipal registers. Statistics Poland collects the information from municipalities in the form of a full statistical survey. Each municipality in Poland receives information on waste either from private companies handling the municipal waste management or public entities owned by local government to carry out waste collection. The data from municipal registers are then compiled by the Statistics Poland.

Statistics Poland has also noted that the municipal waste data collected from communal associations areas such as churches or schools are estimated in each municipality. This is because each of these communal entities has the power to draw up contracts for waste management themselves and are not obliged to report this to the municipality.

Comparison of Methodologies Between Selected EU Countries

From the countries selected in this report, the first noticeable difference is that the municipal waste statistics is compiled by the environmental agency in Austria and not by the national statistical institute. All other countries in this report, the national level on municipal waste data is compiled by the national statistical institute.

The national database developed by Austria seems like an advanced option to decrease the amount of bureaucracy. The Electronic Data Management also seems to be more time and cost efficient.

The flow of the information on municipal waste data could be summarized as follows:

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[11] https://www.municipalwasteeurope.eu/sites/default/files/AT%20National%20factsheet.pdf
[12] Die Bestandsaufnahme der Abfallwirtschaft in Österreich, Statusbericht 2019
[13] https://stat.gov.pl/en/experimental-statistics/functional-areas-territorial-accessibility/development-of-indicators-on-municipal-waste-management-in-gminas-and-municipal-waste-management-regions,1,1.html
[14] https://www.isonomia.co.uk/pole-position-the-state-of-waste-management-in-poland/

1. Waste treatment facilities report data on waste collected to the local municipality/state
2. Each municipality/state reports this information to national agency through surveys or register/database
3. (Additional) some national agencies request further information through surveys or questionnaires
4. National agency compiles and aggregates municipal waste statistics
5. National agency reports such data to Eurostat (approximately a year after)

The majority of the countries uses survey to gather the municipal data, with the exception of Czech Republic, which uses both register and survey and Austria, which uses a national database system.

Conclusion

From a linguistic point of view, it is interesting to note the official English titles for the statistical offices. The formulas for the English titles are either "Country + Statistics" or "Statistics + Country". Just like the various different methods each country has for aggregating municipal waste statistics, the methodology from the countries selected in this report do not differ as much. Some countries have additional surveys and some countries take a multidimensional approach (Czech Republic).