



# An Insight Into Sustainability Reporting in Waste Management Industry

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**Abstract:** *The paper focuses on the analysis of sustainability awareness in the field of waste management, which can be observed also through sustainability reporting. Special attention is given to providers of services of general economic interest in the waste management industry in Slovenia. The methodology involves reviewing the information and publications available on the organizations' websites, where annual reports and sustainability reports are taken into consideration. The research population includes all 65 waste management service providers in Slovenia. This research aims to recognize whether organizations produce any form of sustainability reporting, and to what extent are they compliant with the European directives in this domain. Results indicate that most of the analyzed organizations include sustainability reporting in their annual reports, either as a separate chapter or as part of other content in the annual report.*

## 1. INTRODUCTION

The sustainable operation of an organization represents its contribution to the social, environmental, and economic aspects of sustainable development. It is a key to the long-term sustainable development of the economy and society. Therefore, sustainability reporting is an important measurement of organization's performance in implementation of the sustainable development goals. It is a management tool and a tool to ensure accountability. The focus of the paper is on the analysis of awareness of sustainability in the field of waste management, which can be observed also through sustainability reporting. Special attention is given to providers of services of general economic interest in the waste management industry in Slovenia. The sustainability report is considered an important tool for sustainable management of every organization. Transparency of reporting and spreading awareness of the importance of sustainable development serves as a base of good practices, experiences, and knowledge exchange which build trust between the involved stakeholders and with the society. Therefore, the presented research on sustainability awareness offers very useful information and recommendations based on the recognized good practices in Slovenian waste management.

The methodology involves reviewing the information and publications available on the organizations' websites, where annual reports and sustainability reports are taken into consideration. The research population includes all 65 waste management providers in Slovenia. The aim of this research is to recognize whether the organizations studied produce any form of sustainability reporting, and to what extent are they compliant with the European directives in this domain. The study derives from three research questions: 1) What form of sustainability reporting is produced by the organizations?, 2) Is sustainability reporting compliant with European directives?, and 3) What is the extent of sustainability awareness of the organizations in relation to their location?. The results show that most of the analyzed organizations involve sustainability reporting in their annual reports, as a separate chapter, or as part of other content in the annual report. Only about

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10% of analyzed organizations do not report on sustainability. Yet, results do not enable the conclusion of the relation between sustainability awareness and the organization's location.

The paper is structured as follows. In the introduction, some general information is given on the focus of the paper, the methodology used, research questions and preliminary results. In the second section theoretical background is presented, focusing on sustainability reporting in general and its driving factors, also mentioning sustainability reporting in waste management. And, at the end, a brief insight into European directives on sustainability reporting is given. The third section is intended for research on sustainability reporting in waste management in Slovenia. Methodology and preliminary research results are presented together with answers to posed research questions. The fourth section gives an insight into possible future research directions and the last section, the conclusion, gives concluding remarks on the content and research findings of the paper.

## 2. THEORETICAL BACKGROUND

Sustainability reporting is recognized as a relatively new process of measuring and disclosing, as well as ensuring accountability in achieving organization's sustainable development goals. However, there are different definitions and synonyms for sustainability reporting, e.g. "corporate social responsibility (CSR) reporting, sustainable development (SD) reporting, triple bottom line (TBL) reporting, non-financial reporting, and environmental, social and governance (ESG) reporting" (Zrnić et al., 2020, p. 272). It is becoming more and more popular, as it requires the improvement of organization's competitiveness by addressing the concerns of environmental, social and economic issues. Through sustainability reporting, organizations can share their green activities with internal and external stakeholders. More and more customers are interested in selecting organizations with sustainability approaches to reduce environmental impacts (Agama & Zubairu, 2022). Dincer and Dincer (2024) in their study reveal that the environmental dimension of sustainability is the most extensive and has the biggest influence on stakeholders, aligning business practices with sustainability goals. Social and economic dimensions of sustainability have less attention, but it is growing, especially with community engagement in local environmental policy-making, sustainable production, investment decisions, etc. Organizations can provide or document their sustainability practices through sustainability reporting, using different reporting formats. These practices provide valuable information and promote transparency and accountability for various stakeholders when making their decisions. Standardized sustainability reporting leads to an even more comprehensive and structured overview of an organization's sustainability efforts and results in even more improved decision-making (Job & Khanna, 2024). The comparability of reporting or harmonization of reporting is an important topic of recent debates on sustainability reporting (Jeriji et al., 2022; Korca et al., 2023; Luque-Vílchez et al., 2023), as it enhances the usefulness of information, which makes corporate evaluation easier. Therefore, investors are more and more interested in comparable sustainability information (Luque-Vílchez et al., 2023).

Sustainability reporting can be driven by different factors. In general, Nazari et al. (2015) divide them into external pressures (motivators) and internal organizational factors (facilitators). According to Benvenuto et al. (2023), the external drivers are institutional drivers (e.g. legal system, cultural system, etc.) and internal ones are business drivers (e.g. firm size, profitability, etc.). Firm size is an evident driver of sustainability reporting. Larger firms are more exposed to capital markets and are therefore under greater pressure to publish sustainability information. Profitability is a more complex factor. It can be a positive and a negative driver. A positive driver is when profitable firms show their success in the capital markets through sustainability reporting. Further

on, capital structure appears as a positive driver when firms have increased capital demand, which increases their interest in providing sustainability information to capital providers. The ownership structure is also recognized as a positive driver of sustainability reporting and an appropriate corporate governance system and sustainability management must be implemented at the same time to successfully achieve the sustainable alignment of the firm (Arkoh et al., 2024; Dienes et al., 2016).

Sustainability reporting is especially important in waste management (Lejárraga García et al., 2024). To achieve environmental sustainability, effective treatment of waste or effective waste management is a key factor. Sustainable waste management should protect the environment and human health and be economically reasonable (Yalçintas et al., 2023). Public companies, which frequently forms of providing waste management services, should promote sustainability reporting to identify the actual environmental and social problems. And, sustainability reporting in waste management, due to its importance, should not be influenced by the factors, that usually drive the sustainability reporting (e.g. the size of the company, ownership structure, etc.) (Lejárraga García et al., 2024). EU introduced an obligation for some large companies to report non-financial information or information on sustainability by implementing the Non-Financial Reporting Directive (Directive 2014/95/EU). These sustainability reporting obligations apply to large public interest entities, with more than 500 employees (European Court of Auditors, 2019). New European Directive 2022/2464/EU (Corporate Sustainability Reporting Directive - CSRD) came into force in 2023, which applies to large, middle and small enterprises. The CSRD Directive will be implemented gradually. First, enterprises are already obliged to report in line with the previous directive and start reporting for the business year 2024. The purpose of this Directive is to disclose information about sustainability risks and opportunities more transparently. The data will be more comparable, reliable and easily accessible for users. This will also reduce the unnecessary costs related to sustainability reporting. Users of this information will get a comprehensive insight into the organization's impact and performance in the field of sustainability (Ernst & Young Global Limited, 2023).

### 3. RESEARCH ON SUSTAINABILITY REPORTING IN WASTE MANAGEMENT IN SLOVENIA

#### 3.1. Methodology

The focus of the paper is on the analysis of awareness of sustainability in the field of waste management, which can be observed also through sustainability reporting. To be more precise, the research encompasses sustainability reporting of providers of services of general economic interest in waste management in Slovenia. The research enables us to get the answers to three research questions: 1) What form of sustainability reporting is produced by the organizations?, 2) Is sustainability reporting compliant with European directives?, and 3) What is the extent of sustainability awareness of the organizations in relation to their location?. Therefore, the research results help to recognize whether organizations do any form of sustainability reporting (e.g. independent sustainability report, a separate chapter on sustainability in the annual report), and to what extent are they compliant with the European directives in this domain.

The methodology involves reviewing the sustainability information and publications, e.g. annual reports and possible sustainability reports, via organizations' websites and/or via public posting of annual reports on the Agency of the Republic of Slovenia for Public Legal Records and Related

Services. Only reports for the last available year (2023) were taken into consideration. With the review of annual reports, it is recognized, whether the organizations publish any kind of sustainability information and in what extent and form it is incorporated in the annual report (e.g. as an individual part of the annual report; as a part of other content in the annual report). The research population includes all 65 waste management providers in Slovenia. In Slovenia, public utilities in the field of waste management are managed locally, at the municipal level. The most common form of waste management utility provision in Slovenia is public enterprise, as around 80% of providers have this legal form, and the remaining are concessionaires. A public enterprise in Slovenia necessitates full municipal ownership of one or more municipalities.

### 3.2. Results

The results reveal that most of the analyzed organizations involve sustainability reporting in their annual reports. Two thirds of analyzed organizations report on sustainability as a part of other content in the annual report, e.g. the managing director's report, a part of other chapter(s). The amount of this information differs among the organizations. Some organizations mention sustainability only in one part of other content and some mention it several times in different parts of the annual report. Around 24% of analyzed organizations report on sustainability as a separate chapter in the annual report. The results also show that sustainability information is not always named with the term "sustainability", but are named with other terms, e.g. quality and environment, and social responsibility. The evidence also reveals that around 10% of analyzed organizations do not even report on sustainability. As sustainability reporting obligations under the Non-Financial Reporting Directive (Directive 2014/95/EU) were applied to large public interest entities, with more than 500 employees, the share of non-reporting organizations is low and points to the fact that waste management providers in Slovenia are aware of sustainability.

Before 2024 entities of public interest with more than 500 employees were obliged to report on sustainability under the Non-Financial Reporting Directive, which is incorporated in the Slovenian Companies Act (Official Gazette of the Republic of Slovenia, No. 42/06 of 19 April 2006). Slovenia has 31 entities of public interest in the field of waste management, but only one of them exceeds 500 employees and is therefore obliged to report on sustainability. After 2024, referring to the reporting year, organizations will have to report in line with the Corporate Sustainability Reporting Directive (CSRD). This means that all large enterprises (not only public-interest entities) will start reporting for business year 2024, and small and medium-sized enterprises, listed on the stock exchange, will be obliged to report in line with this Directive starting with business year 2026. These provisions of the CSRD Directive are already incorporated in the Slovenian Act Amending the Companies Act, which was approved by the Slovenian government in June 2024. To conclude, sustainability reporting is compliant with European directives.

Finally, we questioned ourselves on the extent of sustainability awareness of the organizations in relation to their location. Slovenia is divided into 12 statistical regions. Results show that sustainability reporting is higher in 6 regions on average if we scrutinize the contents of reports. These regions cover 54% of the total population of Slovenia, and three regions are part of the north-eastern Slovenia, and three regions are part of western Slovenia. Interestingly, the central region is not included, although it is, both, the most populated and most developed region in Slovenia. Sustainability awareness is, therefore, higher in western and north-eastern Slovenia, but the question remains, why sustainability awareness is higher in those regions, in comparison to the central, southern and south-eastern parts of Slovenia.



#### 4. DISCUSSION AND FUTURE RESEARCH DIRECTIONS

As the research presented in the previous section already revealed, Slovenian waste management service providers have so far not been obliged to report on sustainability, except for the one entity of public interest with more than 500 employees. However, most waste management service providers voluntarily provide sustainability information in their annual reports. For future research, it would be interesting to find out which reasons or motivating factors lead the providers to report on sustainability voluntarily and what determines the scope of reporting (a separate/individual chapter, a smaller/larger amount of sustainability information within other content in the annual report). It would also be interesting to find out why the rest of the providers (approximately 10 % of them) had not yet decided to voluntarily report on sustainability, or why their sustainability information (in case they do report it) is not publicly available.

Starting in 2025 large enterprises with more than 500 employees will have to report on sustainability in line with new Directive CSRD for the first time, and from 2026 also small and medium-sized enterprises. The research could be directed at a comparative analysis of differences and similarities in current and future sustainability reporting (e.g. content, scope, type of reporting, etc.). In addition, a comparable overview of the number of waste management providers that report on sustainability would be desirable to obtain, to see whether the number of mandatory and volunteer reporters has changed. This research could be done by reviewing forthcoming annual reports of waste management service providers and comparing them with the existing ones. Further research is warranted to portray, why sustainability awareness is higher in the north-eastern and western parts of Slovenia. Besides, further analysis could also give an insight into the possible changes in reporting in line with the new Directive, and whether it affects the sustainability awareness concerning the location of organizations.

#### 5. CONCLUSION

Sustainability reporting is more and more important, which improves the sustainability awareness of organizations. In line with European Directives, sustainability reporting extends corporate responsibility and improves transparency and comparability of information. Sustainability reporting offers many (business) opportunities, both for the organization and for the other stakeholders. Research on the awareness of sustainability in the field of waste management in Slovenia was done by observing the sustainability reporting, via annual reports published. The results of the analysis helped answer research questions, as most of the analyzed organizations include sustainability reporting in their annual reports, and only about 10 % of analyzed organizations do not report on sustainability, or the sustainability contents were not found. Sustainability reporting is compliant with European directives, as the provisions of the directives are incorporated into Slovenian law. We also got an insight, into where the extent of sustainability awareness is higher, but we were not able to conclude on the relation between sustainability awareness and the organization's location.

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