INSTITUTO
UNIVERSITÁRIO
DE LISBOA

Application of EFRAG's Exposure Draft of Voluntary ESRS for non-listed SMEs on a Portuguese Natural Stone Company

Francisco Gonçalves Barbosa

Master in Accounting and Management Control

Supervisor:
Dr. Isabel Lourenço, Full Professor

October, 2025

BUSINESS
SCHOOL

Department of Accounting

Application of EFRAG's Exposure Draft of Voluntary ESRS for non-listed SMEs on a Portuguese Natural Stone Company

Francisco Gonçalves Barbosa

Master in Accounting and Management Control

Supervisor:
Dr. Isabel Lourenço, Full Professor

October, 2025

"... I tried to classify your species. I realized that you're not actually mammals. Every mammal on this planet instinctively develops a natural equilibrium with the surrounding environment but you humans do not. You move to an area and you multiply and multiply until every natural resource is consumed. The only way you can survive is to spread to another area. There is another organism on this planet that follows the same pattern. Do you know what it is? A virus."

- *Agent Smith, The Matrix*

Acknowledgment

The end of this project marks not only a conclusion but also a new beginning and an important milestone in my life. With this, I would like to express my deepest gratitude to all that contributed to the completion of this project.

First of all, I am grateful to my professors for their academic guidance and continuous support. A very special acknowledgment goes to Professor Isabel Lourenço, my supervisor, for her encouragement, good advising, and exceptional guidance throughout this journey.

Then, I would like to thank to LSI Stone for their collaboration, providing all the necessary information and support, which were essential for data collection and for the development of this research. My sincere appreciation goes to Regina Vitório (CEO), Pedro Vazão (COO), for continuous guidance throughout the project, and to Adriana Vieira, Ana Caeiro, Dany Abreu, Flávia Ferreira, Patricia Fino, Sérgio Paulo and all employees, for their warm welcome, detailed explanations of the company's processes, and willingness to answer every question.

I want to thank Liliana Elisabete Barata Dias, Mariana Gonçalves Barbosa, Mário Alexandre Henriques Barbosa and Sandra Marina Garcia Gonçalves for always being there for me and encouraging me to improve and to do better, without you, this project would not have been possible.

Also, I would like to thanks my colleagues and friends who stayed by my side during this period. The mutual support, discussion of ideas, and shared experiences were fundamental to the success of this project.

Finally, I wish to thank everyone who, in one way or another, shared their knowledge, offered encouragement and helped me during this process. To every one of you, I extend my sincere appreciation.

Abstract

This project applies a model, developed by the European Financial Reporting Advisory Group (EFRAG), known as Voluntary ESRS for non-listed Micro-, Small- and Medium-Sized Enterprises - Exposure Draft (VSME ED), on a Portuguese natural stone company.

Sustainability reporting has become a paradigm in corporate transparency, however, micro, small and medium-sized enterprises (SMEs) face difficulties in meeting the requirements of complex frameworks and answer questionnaires of sustainability information. Through a qualitative methodology, this project test and evaluates the applicability, proportionality and usability, and also identify some benefits and challenges of the VSME ED Basic Module, a standard that propose to solve this problem.

The process of preparing the sustainability report revealed to be essential for understanding the implications of the standard and for validating its potential as an effective reporting tool for the company and others non-listed SMEs. However, there are some limitations of the study, more specifically the limited duration of the study, the empirical restrictions of only analyzing one company and the absence of external assurance. Overall, the conclusions of the study demonstrate that VSME ED provides a simplified tool that helps SMEs to disclose sustainability information without disproportionate burdens and will bring diverse benefits for companies.

Keywords: Sustainability Reporting Standard; EFRAG; SMEs; VSME ED; ESG.

JEL Classification: M41; Q56

Resumo

Este projeto aplica um modelo, desenvolvido pelo *European Financial Reporting Advisory Group* (EFRAG), conhecido como *Voluntary ESRS for Non-Listed Micro-, Small- and Medium-Sized Enterprises - Exposure Draft* (VSME ED), numa empresa portuguesa de pedra natural.

O relato de sustentabilidade tornou-se um paradigma na transparência empresarial, no entanto, as micro, pequenas e médias empresas (PMEs) enfrentam dificuldades em cumprir os requisitos de normas complexas e em responder a questionários de informação sobre sustentabilidade. Através de uma metodologia qualitativa, este projeto testa e avalia a aplicabilidade, proporcionalidade e utilidade, e ainda identifica os benefícios e desafios do Módulo Básico VSME ED, uma norma que se propõe a resolver este problema.

O processo de elaboração do relatório de sustentabilidade revelou ser essencial para a compreensão das implicações da norma e para a validação do seu potencial como ferramenta de relato eficaz para a empresa e outras PMEs não cotadas. No entanto, existem algumas limitações do estudo, nomeadamente a duração limitada do estudo, as restrições empíricas de analisar apenas uma empresa e a ausência de verificação externa. Por fim, as conclusões do estudo demonstram que o VSME fornece uma ferramenta simplificada que ajuda as PMEs a divulgar informações de sustentabilidade sem encargos desproporcionais e trará diversos benefícios para as empresas.

Palavras-chave: Norma de Relatório de Sustentabilidade; EFRAG; PMEs; VSME ED; ESG.

Classificação JEL: M41; Q56

Index

Introduction **1**
1.1. Research Context 1
1.2. Research Question 2
1.3. Methodological Approach 2
1.4. Structure of the Project 2
Literature Review **5**
2.1. Financial Reporting 5
2.2. Sustainability 6
2.3. Sustainability Reporting 7
2.3.1. Voluntary Standard for non-listed Small and Medium-sized Enterprises 8
2.3.2. Criticisms of VSME 9
2.3.3. SMEs and Sustainability Reporting in Portugal 10
Methodology and Research Methods **13**
3.1. Methodology 13
3.2. Development of an In-Company Project 13
3.2.1. Preparation 14
3.2.2. Evidence Collection 14
3.2.3. Validation of Evidence Collection 15
3.2.4. Elaboration of the sustainability report 15
3.2.5. Writing Conclusions 16
Sustainability Report **17**
4.1. Basic Module – General information 17
4.1.1. B1 – Basis for preparation 17
4.1.2. B2 – Practices, policies and future initiatives for transitioning towards a more sustainable economy 18
4.2. Basic Module – Environmental Metrics 19
4.2.1. B3 – Energy and greenhouse gas emissions 19
4.2.2. B4 – Pollution of air, water and soil 21

4.2.3. B5 – Biodiversity 21
4.2.4. B6 – Water 22
4.2.5. B7 – Resource use, circular economy and waste management 23
4.3. Basic Module – Social metrics 25
4.3.1. B8 – Workforce – General characteristics 25
4.3.2. B9 – Workforce – Health and safety 25
4.3.3. B10 – Workforce – Remuneration, collective bargaining and training 25
Presentation of Calculations and Justification of Information 27
5.1. Basic Module – General information 27
5.1.1. B1 – Basis for preparation 27
5.1.2. B2 – Practices, policies and future initiatives for transitioning towards a more sustainable economy 29
5.2. Basic Module – Environmental Metrics 29
5.2.1. B3 – Energy and greenhouse gas emissions 29
5.2.2. B4 – Pollution of air, water and soil 36
5.2.3. B7 – Resource use, circular economy and waste management 37
5.3. Basic Module – Environmental Metrics 39
5.3.1. B8 – Workforce – General characteristics 39
5.3.2. B9 – Workforce – Health and safety 40
Conclusion 41
6.1. Benefits, challenges, and cost implications 41
6.2. Limitations 42
6.3. Future Research Suggestions 43
6.4. Conclusion 44
Bibliographical References 45

List of Tables

Table 1. Total Energy Consumed 19

Table 2. Total Scope 1 and Scope 2 Emissions 20

Table 3. Pollutants 21

Table 4. Land Use 22

Table 5. Hazardous Waste 24

Table 6. Balance Sheet 27

Table 7. Income Statement 28

Table 8. Consumption photovoltaic panels 30

Table 9. Consumption electricity 30

Table 10. Electricity Origin by month 31

Table 11. Electricity division between renewable and non-renewable 32

Table 12. Gasoline and diesel consumption 32

Table 13. Gasoline and diesel convertion to MWh 33

Table 14. Gasoline and diesel division between renewable and non-renewable 33

Table 15. Natural Gas consumption 34

Table 16. Emissions factor CO_2 34

Table 17. Calculation of emissions 35

Table 18. Total Emissions Scope 1 and Scope 2 35

Table 19. Emissions intensity 35

Table 20. Employee arrivals and departure 39

Table 21. Work related accidents 40

List of Figures

Figure 1. ISO 14001:2015 28

Figure 2. Electricity Origin 31

Figure 3. Annual Report of Emissions 36

Figure 4. APA Submisson 37

Figure 5. ISO 9001:2015 38

Glossary

COO - Chief Operating Officer

CSR - Corporate Social Responsibility

CSRD - Corporate Sustainability Reporting Directive

ED - Exposure Draft

EFRAG - European Financial Reporting Advisory Group

ESG - Environmental, Social and Governance

IASB - International Accounting Standards Board

IFRS - International Financial Reporting Standards

ISSB - International Sustainability Standards Board

MWh - Megawatt-hour

SMEs - Small and medium sized-enterprises

VSME - Voluntary standard for non-listed micro-, small- and medium-sized undertakings

WWTP - Wastewater Treatment Plant

CHAPTER 1

Introduction

Sustainability reporting has become a basis in modern business practices, motivated by the regulators, investors, and other stakeholders for transparent and comparable information on environmental, social, and governance (ESG) performance. While large companies in the European Union are required to comply with the Corporate Sustainability Reporting Directive (CSRD), non-listed micro, small and medium-sized enterprises (SMEs) remain outside its direct scope. However, SMEs are increasingly affected by their integration into supply chains of larger companies, request of lenders, to get access to finance, stakeholder expectations and market competitiveness. In response, the European Financial Reporting Advisory Group (EFRAG) developed the Exposure Draft of Voluntary Sustainability Reporting Standards for non-listed SMEs (VSME ED), which aims to provide an easy reporting tool. This project applies the VSME ED to a Portuguese natural stone company, with the objective of testing its applicability and identify some challenges and benefits associated.

1.1. Research Context

The main motivation of this project lies in the unequal burden that SMEs may face, despite their significant contribution to European economies. In Portugal, for instance, SMEs represent more than 99% of businesses and generate most of the employment and value added, yet the majority of them do not publish sustainability reports. This gap creates a tension between market demands for ESG information and SMEs availability to produce . By applying the Basic Module of the VSME ED, this project situates between sustainability regulations, SMEs practices, and broader debate on proportionality and usability of the reporting itself.

1.2. Research Question

The research question focus on how the application of the VSME ED is feasible and proportionate for a specific non-listed SME, and what are the main benefits and challenges of its implementation for that company.

This question aims not only to assess the operational aspects of preparing disclosures under the VSME ED Basic Module but also to evaluate and test possible structures of sustainability report for LSI Stone in the next years. For getting some conclusions of the project, the findings were based on the *VSME ED Public Consultation Questionnaire* done by EFRAG Secretariat (2024), so everything was in accordance with what matters they think that are useful to conclude about the usability of the standard.

1.3. Methodological Approach

This thesis adopts a qualitative methodology. The research design is structured around the practical implementation of the Basic Module of the VSME ED and the study followed four main steps, the preparation, including literature review and checklist preparation, the evidence collection, the validation of evidence and the elaboration of the sustainability report. The data collection is based on unstructured observations, informal interviews, and document analysis, ensuring triangulation and reliability. After this it was also done evidence validation by checking internal company data with primary sources such as invoices and reports. With this steps, the elaboration of the sustainability report was more consistent and provided a useful tool for better academic discussion.

1.4. Structure of the Project

The project is structured in seven chapters. Chapter two presents the literature review on financial and sustainability reporting, highlighting the history of standards, the growing importance of ESG, the role of SMEs in sustainability reporting and a context of SMEs and sustainability reporting in Portugal. Chapter three presents the methodology and research methods, describing the project approach and the procedures for evidence collection and report writing. Chapter four is the main topic of the project as it is the sustainability report prepared

under the VSME ED, structured according to the Basic Module. Chapter five presents the calculations and justification of the disclosures. Finally, Chapter six concludes the study by summarizing the main insights, discussing implications for SMEs, outlining the limitations and the future research suggestions and concluding the project.

CHAPTER 2

Literature Review

2.1. Financial Reporting

Financial reporting has very ancient origins, linked to the need of societies to record transactions and ensure economic control. According to Unegbu (2014), the first accounting systems appeared in Mesopotamia, around 450 BC, through clay tablets with records of goods and transactions. Year later, in Athens and Rome, systems of accountability and records of receipts and payments were developed, known as the "charge and discharge system", focused principally on detecting losses, thefts and frauds, rather than on supporting management decisions (James, 1955) (Unegbu, 2014).

The big growth continue in Italy, in the thirteenth and fourteenth centuries, with the spread of double-entry bookkeeping, which made it possible to distinguish assets, liabilities, revenues and expenses. This method was systematized by Luca Pacioli in 1494, in the paper *Summa de Arithmetica*, and quickly was adopted through Europe, establishing the foundations of modern financial reporting. From then, accounting began to be used not only as an instrument of recording and control, but also as a tool of trust between owners and managers, facilitating the growth of mercantile capitalism and, later, industrial capitalism (Unegbu, 2014).

In 1973, it was founded the International Accounting Standards Committee (IASC) to harmonize diverse national accounting practices. Years later, in 2001, this committee became into the International Accounting Standards Board (IASB), which began publishing International Financial Reporting Standards (IFRS). One of the most important moments came when the European Union required the adoption of IFRS for European listed companies, in 2005. The main advantages of IFRS reporting include better comparability of financial statements across countries, improved transparency and credibility for investors, reduced reporting costs, and greater access to international capital markets. This aspects, positioned IFRS as a leading accounting standard (Zeff, 2012).

2.2. Sustainability

The first concepts of the modern definition of Corporate Social Responsibility (CSR) emerge in academic debate in the early 1950's (Latapí Agudelo et al., 2019). Years later, Carroll (1979) provided a more comprehensive definition of CSR by categorizing corporate obligations into four dimensions: economic, legal, ethical and discretionary.

Only in the 1990's, occurred the globalization of CSR and the approach to sustainable development. In that time, the international efforts for setting standards of climate-related issues was reflected on the creation of international bodies, like European Environment Agency (EEA), in 1990, and United Nations Framework Convention on Climate Change (UNFCCC), in 1992, and the adoption of international agreements (Latapí Agudelo et al., 2019).

Nowadays, sustainability has become a central paradigm for countries, organizations, companies and society, however, its future directions remain uncertain. Rather than fixed outcomes, the future of sustainability can take many imaginary trajectories that shape current practices and structures in politics, economy, civil society, and science (Adloff & Neckel, 2019).

While the future of sustainability remain open, companies are increasingly concerned by how they impact the environment, manage their social responsibilities and what principals of corporate governance they adopt. These dimensions are named of ESG and constitute not only a critical indicator of sustainability and corporate responsibility but also a significant determinant of firm value. (Chytis et al., 2024)

According with Aydoğmuş et al. (2022) stakeholders expect the firm to be keen on all these fronts and take necessary actions and report these information. In their point of view, this will increase the firm value and reputation, however, from the companies perspective, taking action means investment. Although sustainable investments often imply higher upfront costs, several studies highlight their potential to create long-term value. Nishihara (2023) agrees and say that these investment normally requires a high initial cost and yields cash flows perpetually, while the unsustainable projects do not have so many cost and yields cash flows until a random maturity.

2.3. Sustainability Reporting

As sustainability became progressively a concern, companies started to be required to communicate their practices. This led to the emergence of sustainability reporting which, since the 1960's, evolved from fragmented environmental disclosures into structured standards. Here, the Global Reporting Initiative (GRI), created in 1997, played a central role in transforming sustainability reporting into a widely accepted global practice (Gokten et al., 2020).

Many year later, in 2021, the IFRS Foundation propose, to establish the International Sustainability Standards Board (ISSB), operating with IASB, to focus on the growing demand for sustainability disclosures. The ISSB was tasked to develop high quality globally accepted standards, initially prioritizing environmental information and progressively expanding to other ESG dimensions (IFRS® Foundation, 2021).

The requirements currently imposed to large companies in the European Union are originated from the *Directive (EU) 2022/2464*, that started in 2022 and came from the Corporate Sustainability Reporting Directive (CSRD) (European Union, 2022).

According with KPMG (2022), a notable 96% of companies listed on the G250 index provide annual reports on sustainability and ESG matters, reflecting a strong commitment to these critical areas. This adoption of sustainability reporting, among the biggest world companies, highlights the importance of transparency and accountability, in sustainable matters, in their operations. By regularly disclosing their sustainability practices, these companies not only demonstrate their dedication to improving their value but also respond to the increasing expectations of stakeholders, including investors, customers, and regulatory agencies.

However, it is not just the large companies that are affected by sustainability, preparing sustainability reports is also becoming crucial for SMEs, since they play an essential role in the global goal of sustainability. While non-listed SMEs are not legally required to disclose sustainability reports, they often face indirect obligations, because banks, large corporations, and public sector entities frequently request that information (Ortiz-Martínez & Marín-Hernández, 2024).

This growing concern among companies regarding the preparation of sustainability reports has emerged the mission of EFRAG, a private association established in 2001. EFRAG's purpose is to serve the public interest by offering technical advice to the European Commission. This role includes drafting European Sustainability Reporting Standards, suggesting

amendments to these standards, and providing implementation support. With this important role on European Sustainability Reporting, in November 2022, EFRAG launched two workstreams on sustainability reporting standards for SMEs. One of them is a voluntary standard for SMEs (VSME) and on 22 January 2024, EFRAG launched the public consultation on this Exposure Draft, in order to get feedback and improve them (EFRAG, 2025).

2.3.1. Voluntary Standard for non-listed Small and Medium-sized Enterprises

Although sustainability reporting has historically been linked to large publicly listed corporations, as mentioned before, there is an increasing debate around its extension to non-listed SMEs, because of their crucial role in global economies. Under the CSRD, SMEs are not required to publish sustainability reports, however, their impacts raise concerns, regarding accountability and transparency (Atanasov, 2024). In practice, CSRD affect them indirectly. This happen because SMEs are often part of the supply chains of large companies, which require ESG data from suppliers, and because they depend heavily on loans, where creditors increasingly demand sustainability information to have a good overview of the company (Allgeier & Feldmann, 2023) (Atanasov, 2024).

In November 2022, EFRAG has recognized the structural differences between listed and non-listed SMEs and, in response, announced the development of two distinct reporting standards: the mandatory ESRS for listed SMEs (LSME ESRS) and the Voluntary Sustainability Reporting Standard for non-listed SMEs (VSME ESRS) (Allgeier & Feldmann, 2023).

On 30 July 2025, the European Commission adopted the recommendation of EFRAG by publishing the VSME, in order to reduce administrative burden on SMEs by providing them with a simpler way to supply sustainability information required by large companies and financial institutions that fall under the CSRD and rely on SMEs within their value chains (European Commission, 2025).

The current version of the VSME remains, as mentioned before, only a recommendation, issued by the European Commission, however, the Commission has indicated that a future delegated act under the *Omnibus I simplification package* could transform this recommendation into a formal voluntary standard. Although the existing VSME will serve as the basis for that future standard, the Commission acknowledges that adjustments may be done depending on the

political negotiations between co-legislators and the revision of the first set of ESRS (European Commission, 2025).

The *Omnibus I simplification package* is a legislative initiative to simplify EU rules and boost competitiveness, also introduced by the European Commission (2025). This is a key step forward in creating a more favorable business environment to help EU companies grow, innovate, and create quality jobs.

This ongoing legislatives processes show that, even though the VSME ED is an important move toward creating a common standard for SMEs to report their sustainability practices, it is still being developed and its final version and rules may change in the future.

2.3.2. Criticisms of VSME

To complement the analysis of the VSME standard, it is useful to consider broader empirical findings on the limits that SMEs face in sustainability reporting. A recent systematic review reveals six main categories of barriers, including financial limitations, knowledge and technology gaps, organizational barriers, such as lack of time, resources, or strategic orientation, regulatory and policy complexity, and socio-environmental factors, that delay SMEs' ability to report effectively (Setyaningsih et al., 2024).

According to EFRAG (2024), the success of VSME does not only depend on it structure, but also on the market perception, as highlighted in *VSME ED Public Consultation Questionnaire - January 2024:*

> *"The benefits of VSME will depend on market acceptance and recognition that the VSME ED is suitable to replace a substantial part of the various questionnaires (from lenders, corporates, investors) currently used to collect such information from SMEs."*

Allgeier & Feldmann (2023) agrees with EFRAG because VMSE can help SMEs by reducing bureaucracy, however, it is mainly a simplified version of the rules for large companies, so there is a risk that it will not fully meet the specific needs of smaller, non-listed firms. As a result, the VSME might not be strong enough to protect SMEs from the growing number of ESG data requests made by large clients in their supply chains. This protection has

to be done by CSRD, that has to continuously maintain the political and democratic control over VSME.

Although, the VSME ED remains independent from the CSRD mandatory scope and operates only as a voluntary guideline for SMEs. In practice, the standard does not impose external assurance of the disclosed information and this lead to questions about the accuracy, and overall trust of the sustainability data collected, presented in the report (Camille Branquart, 2024).

2.3.3. SMEs and Sustainability Reporting in Portugal

In 2023, according to Instituto Nacional de Estatística (INE) (2025), there were around 1,5 million non-financial companies in Portugal, of which 99,9% were SMEs. These SMEs employed 77,9% of the workforce, generated 58% of turnover and represent 63,6% of gross value added. These values represent the importance and the size of SMEs in Portugal economy.

Although, this predominance does not reflect the adoption of sustainability report. A recent study conducted by Católica Lisbon School of Business & Economics (2024) in partnership with *BPI*, *Fundação "la Caixa"* and *Fundação Francisco Manuel dos Santos*, surveyed 108 SMEs and 61 large companies to assess their alignment with the 2030 Agenda and their sustainability reporting practices. Among SMEs inquired, only around 14,8% publish environmental or social sustainability information and this finding highlights a significant gap in the Portuguese SMEs.

Aligned with this gap, previous research has also shown that the Portuguese SMEs differ considerably in how they engage with CSR practices. Ferreira & Gabriel (2019) conducted a questionnaire to several SMEs that revealed four distinctive groups of firms, ranging from low to high levels of CSR implementation. Their findings indicate that companies with stronger CSR engagement tend to be larger, older, have higher turnover, and are more likely to hold certifications. This search suggests that, not only is the publication of sustainability reports still scarce among Portuguese SMEs, but also the sustainable practices themselves are randomly implemented and highly dependent on organizational characteristics.

Also, Fonseca & Ferro (2016) provided evidences that reinforce the strategic relevance of CSR practices within the Portuguese SMEs context. By analyzing data from more than 2.000 companies over ten years, the authors found a connection between social responsibility performance and business results, suggesting that CSR can generate economic benefits even if

the market face financial difficulties. This finding complements previous research by showing that, beyond ethical and regulatory motivations, sustainability initiatives can represent a source of competitive advantage and have good long-term results on SMEs. Nevertheless, despite of the economic potential of CSR, many Portuguese SMEs still perceive sustainability as a cost rather than an investment, which helps to explain why few SMEs adopt sustainability reporting.

CHAPTER 3

Methodology and Research Methods

This chapter aims to present the methodology and the research methods used to gather information, develop the sustainability report and get conclusions. It begins with a brief explanation of the methodology and then develop how everything was well prepared, including an explanation of the evidence collection

3.1. Methodology

This study is framed in sustainability reporting and it was done as an in-company project. In order to carry out the project, it was necessary to describe particular practices of the company, that lead to the need of gathering information in accordance with the model. The best way to achieve that information was a qualitative methodology, due to its ability to address meaning, context, and process (Maxwell & Reybold, 2015).

The qualitative methodology uses a wide range of evidence collection tools. For this study, the most appropriate were collecting information through unstructured direct observations and interviews, as well as documents analysis (Creswell, 2009).

3.2. Development of an In-Company Project

The research process stared with the preparation, meaning the literature review, then it was elaborated a checklist for the evidence collection. After the evidence collection, all was validated and then occur the preparation of the sustainability report and the writing of the conclusions and findings.

3.2.1. Preparation

The preparation started by a brief study of the EFRAG VSME Exposure Draft, and all the associated documents, like *VSME ED Public Consultation Questionnaire* and *VSME ED Field Test questionnaire*. Engaging with this documents helped to learn the objectives and requirements of the standard and how it could be implemented on a real company. This preparatory work also enhanced the knowledge on sustainability reporting and offer a clear perspective of the potential challenges involved in preparing the report

Complementing this work, it was done a literature review that, in a qualitative study, helps to substantiate the research problem. This reviewing of literature was done not only at the beginning of the qualitative research, but also at the end, as recommended by Creswell (2009).

After the requirements had been studied, it was elaborated a checklist outlining all the information required by the *Basic Module* of the standard. This tool made the in-company evidence collection easier because it could enable the verification of whether all the required information was already gather.

3.2.2. Evidence Collection

The evidence collection, as mentioned before, was done by unstructured direct observations and interviews, as well as documents analysis. This process was made in company and took around two weeks.

The unstructured direct observations started by a tour of the company done by the Chief Operating Officer (COO), Pedro Vazão. In this tour, it was able to comprehend the value chain and processes of the company, as well as to identify possible matter to the sustainability report, for example, which machineries where problematic to the environment and consequently if their emissions should be reported.

These observations led to unstructured interviews, where additional information about the company was frequently required and provided by the employees, while the COO simultaneously monitored all the work. The purpose of the interviews was to gather information and specific data, for example, the explanation on where it was possible to find the water consumption records, explanation about these records, whether they referred to water used or consumed, and how the company try to minimize water needs.

The documents analysis was done by the reading of important materials given by the company upon request and through its internal data base, where it was possible to find excels

files that summarize most part of the information. All of this work was done in company to ensure the privacy and confidentiality of all the documents.

3.2.3. Validation of Evidence Collection

The validation of the evidence collection was done by verifying that all the information given by the company was consistent with the reality. This process involved, for example, a review of the company invoices and a comparison with the internal data base to ensure accuracy and reliability. This review was done in all of the disclosures, and not only confirmed that the registered data was correct but also helped to identify potential inconsistencies, errors, or missing information. This step was fundamental to guarantee the robustness of the study, since the credibility of the sustainability reporting relies on the reliability of the data collected. In addition, by validating the evidence directly against primary sources such as invoices, the research reinforced both the transparency and the trustworthiness of the reporting process.

3.2.4. Elaboration of the sustainability report

The elaboration of the report was mostly based on the EFRAG VSME ED *Basic Module* suggestions and it followed the checklist previously prepared. This process provided a clear framework and facilitated the organization. While drafting this module, it was possible to evaluate whether the evidence collected was enough or if additional information was required, and whenever more information was required, the two steps described previously were repeated.

The guidance included in the VSME ED, together with the recommended documentation, offered not only practical instructions on how to prepare each disclosure but also a broader explanation of sustainability concepts. This combination of requirements and guidance contributed to greater consistency in reporting and to a better understanding on how sustainability information should be presented in a way that is both transparent and comparable across companies.

Although the standard suggests presenting all disclosures in tables, for example, in an excel template that EFRAG proposes, this study present it in continuous text supported by auxiliary tables similar to the ones present in the guidance.

3.2.5. Writing Conclusions

The conclusions presented derived from the actual preparation of the Basic Module under the VSME ED, present in chapter four and five, and were conducted as part of the *VSME ED Public Consultation Questionnaire* and supported by the *VSME ED Field Test questionnaire*. The methodological approach combined a hands-on simulation of the disclosures (B1 to B12) with the systematic completion of the questionnaire, ensuring alignment with the objectives of the consultation. By applying directly the standard to the company, using the process previously mentioned, rather than only reviewing it, allowed a practical assessment of the main benefits, and challenges. This mixed evaluative approach ensured that the conclusions reflect both the operational experience of preparing the report and the analytical dimension required by the EFRAG Secretariat to validate the proportionality and usability of the Basic Module.

CHAPTER 4

Sustainability Report

4.1. Basic Module – General information

4.1.1. B1 – Basis for preparation

This Sustainability Report covers the year of 2024 and is based on the VSME model developed by EFRAG. It exclusively covers the Basic module of the standard, following the applicable guidelines for the size and sector of activity of the company LSI Stone. This report is prepared individually, because the company does not have subsidiaries.

LSI Stone, LDA is under the legal form of a Private Limited Company, registered with taxpayer number 504372262, and has its Registered Address located at *Avenida da República, nº 50 - 2º Piso - Escritório 233, 1050-196 Lisboa, Portugal*. It operates within the division of "Manufacture of other non-metallic mineral products", specifically in the group and class of "Cutting, shaping and finishing of stone", in accordance with the NACE Sector Classification Code (23.70).

Based on financial and organizational indicators, during the reporting period LSI Stone had a balance sheet total of 23.655.655,91€, a turnover of 8.469.014,32€, and employed an average of 51 workers. These factors, according with the model, classified the company as a medium enterprise.

The main operations of LSI Stone take place at its facilities located at Leiria, Portugal, where its main assets are situated. This place serves as the production center, where the transformation and finishing of natural stone are carried out.

Among various certifications that the company has, the ISO 14001:2015 stands out, because it demonstrates the company's commitment to sustainability. This international standard sets requirements for a good environmental management system and enables companies to control and reduce their environmental impacts and comply with applicable legislation. The certification is given by the International Organization for Standardization (ISO), which requires the adoption of practices that promote sustainability, such as efficient natural resource management, waste reduction, and pollution control.

The preparation of this report reflects the company's commitment to transparency, environmental sustainability, social responsibility, and corporate governance, aligning the company’s practices with the principles of sustainable development and industry standards.

4.1.2. B2 – Practices, policies and future initiatives for transitioning towards a more sustainable economy

LSI Stone implemented many practices, policies, and initiatives that aim to a more sustainable transition. The company wants to minimize the environmental impact of its operations by promoting energy efficiency, the use of renewable resources, and the adoption of circular economy.

In the recent years, the company made significant investments on the installation of 1.000 photovoltaic modules, allowing an annual production of 638 Megawatts-hour (MWh) of renewable energy. This measure covers a substantial portion of the factory’s energy needs, resulting in a reduction of 94,55 tons of CO_2 per year. In addition, the company has a water reuse system, where more than 97% of the water used in production comes from rainwater, enabling more efficient management of this very important resource.

In the supply chain, LSI Stone works with its suppliers to ensure that they have responsible practices in the extraction of stone. For this, the company always ensure that its partners comply with environmental and social standards.

Regarding sustainability policies, LSI Stone established a Management Policy that covers environmental, social, and governance issues. This policy sets commitments such as the customer satisfaction, the meeting of deadlines, the responsible acquisition, the respect for human rights, and the promotion of equal opportunities. Also, the company values employee awareness, encouraging the active participation in sustainability actions.

Aligned with this policy, the company has a plan of gradually replace all the company fleet with electric and hybrid vehicles, for reducing emissions. As part of this strategy, the company is installing charging stations for electric vehicles, for encouraging employees to adopt sustainable practices and promote a culture of environmental responsibility. At the same time, the company has set a target of covering 80% of its energy consumption with renewable sources by 2030, to monitor the implementation of its policies.

In addition to these initiatives, LSI Stone has a future objective of donating the excess energy generated by its photovoltaic panels to the local community. With this donation, the company aims to combat energy poverty, increasing its social commitment and providing

families and institutions in the region with access to renewable energy and helping them in their needs. This action will promote energy inclusion, by directly contributing to the social well-being and the sustainable development of the community.

LSI Stone is always looking to innovate and recognize that these practices not only contribute to reducing environmental impact but also to enhance the company's competitiveness and generate value for society. The commitment to sustainability has a important part of LSI Stone's identity, positioning the company as a benchmark in the industry and contributing for the construction of a more sustainable and inclusive future.

4.2. Basic Module – Environmental Metrics

4.2.1. B3 – Energy and greenhouse gas emissions

During 2024, LSI Stone consumed a total of 1.651 MWh of electricity, of which 1.050 MWh (63,6%) came from renewable sources and 601 MWh (36,4%) from non-renewable sources. This proportion reflects the company's strong investment in clean energy mainly through self-generated production from the photovoltaic panels, which produced 505 MWh and the energy bought from the supplier. The company also consumed fossil fuels such as natural gas (54 MWh), gasoline (293,13 MWh) and diesel (12,63 MWh), primarily used in vehicles and industrial equipment.

	Renewable Energy Consumed (MWh)	Non-Renewable Energy Consumed (MWh)	Total Energy Consumed (MWh)
Photovoltaic Panels (Own Source)	505	-	505
Electricity (Public grid)	545	601	1.146
Natural Gas	-	53,71	53,71
Gasoline	259,42	33,71	293,13
Diesel	11,17	1,45	12,63
Total	1.050	655	1.704

Table 1. Total Energy Consumed

Regarding greenhouse gas (GHG) emissions, LSI Stone reports a total of 270,75 tons of CO_2 equivalent (t CO_2eq), distributed as follows:

	2024 GHG emissions (t CO2eq)
Scope 1	92,48
Scope 2	214,66
Total	307,15

Table 2. Total Scope 1 and Scope 2 Emissions

Scope 1 refers to emissions caused by the use of gasoline (3,27 t CO_2e), diesel (78,30 t CO_2e), and natural gas (10,92 t CO_2e), as these are emissions from sources controlled by the organization. Scope 2, on the other hand, refers to emissions caused by the purchase of electricity from a supplier, in other words, the company's indirect emissions.

In accordance with the VSME Standard, the GHG emissions intensity has also been calculated based on the company's annual turnover:

Total emissions (Scope 1 + 2): 307,15 t CO_2e

Turnover (2024): 8.469.014,32 €

Emissions intensity = 0,00003627 t CO_2e/€, or 36,27 g CO_2e per euro of turnover

This indicator reflects the carbon efficiency ratio of the company's operations and serves as a relevant tool to monitor the evolution of its climate footprint in relation to economic performance.

4.2.2. B4 – Pollution of air, water and soil

LSI Stone, in accordance with *n.º 4 do Artigo 16º do Decreto-Lei n.º 39/2018, de 11 de junho*, and with *Artigo 7º da Portaria n.º 221/2018, de 1 de agosto*, is required to annually submit detailed information regarding atmospheric pollutant emissions, which includes:

Pollutant	Emissions (t)	Means of release
Sulfur dioxide (SO_2)	N.A	N.A.
Nitrogen oxide (NOx)	0,046	Air
Particles (PTS)	0,304	Air
Carbon monoxide (CO)	0,132	Air

Table 3. Pollutants

4.2.3. B5 – Biodiversity

Located near a biodiversity-sensitive area, specifically in the vicinity of the *Serras d'Aire e Candeeiros*, although not inside the sensitive zone, LSI Stone is committed to preserving biodiversity and managing land use sustainably. The company owns a total of 2,1020 hectares of land, of which approximately 60% is fully sealed for industrial operations, including production areas, offices, and vehicle circulation.

Despite the space required for productive activity, LSI Stone maintains 0,1310 hectares of nature-oriented area within it site, contributing to the conservation of vegetation and local biodiversity. These green areas play a significant role for the company, as they include vineyards, which reflect its commitment to the health of the planet.

The area that is neither sealed nor designated as natural space is used for the storage of stone blocks, which may be used in future production processes.

In the future, the company intends to continue investing in local biodiversity preservation, exploring opportunities to expand the nature-oriented areas on-site and to create new green spaces off-site.

Land Use Type	Area	Percentage of use
Total sealed area	1,2728 ha	61%
Total area facing nature on the site	0,1310 ha	6%
Total area facing nature outside the site	0 ha	0%
Total land use	2,1020 ha	100%

Table 4. Land Use

4.2.4. B6 – Water

One of the pillars of LSI Stone's sustainability strategy, as previously mentioned, is water management, which incorporates technologies that minimize consumption and reduce environmental impact. This concern arises from the company's location in an area classified as "Overall Water Risk: Medium - High" by the World Resources Institute (2023). To face this risk, the company has implemented a closed circuit system, ensuring the recirculation of water used in the production. Additionally, the company has in its facilities a Wastewater Treatment Plant (WWTP), which allows for the collection and reuse of rainwater, and makes all the recirculation work.

In the processes of cutting, polishing, and finishing stone, water is essential to cool the blades, reduce dust emissions, and lubricate the cutting process. To prevent waste, LSI Stone uses a recirculation system in which wastewater passes through several filtration stages before being reintroduced into production. Initially, used water is directed to settling tanks, where stone particles settle at the bottom. It then passes through filters that remove impurities, ensuring the quality of the water for reuse. Finally, the filtered water is pumped back to the production, allowing for continuous use and significantly reducing the need to draw potable water.

In addition to the closed circuit system, LSI Stone harvests rainwater, which is collected by its facilities and treated in the WWTP. After filtration, this water can also be used in production processes, reducing potable water consumption and making the company more efficient in its use of natural resources. This strategy reduces reliance on the public water network and contributes to sustainability.

This initiative reflects a strong commitment to a circular economy model. As mentioned before, the company currently reuses more than 96% of the water it consumes, drawing only 33m³ of water from the public network throughout all of the year. In addition to reducing the extraction of water from natural sources, this approach optimizes operating costs in the long term and make the company almost independent, in water consumption. With this type of investment, LSI Stone reinforces its position as a benchmark for sustainable practices in the sector.

4.2.5. B7 – Resource use, circular economy and waste management

The cutting design of each stone is carefully and uniquely planned with the aim of minimizing waste from the earliest stages of the manufacturing process. With this, LSI Stone ensures greater efficiency and maximize the use of raw materials.

It is applied the principles of the circular economy through the reuse of stone waste for new products, the recycling of water in a closed-loop system, as mentioned previously, and a continuous pursuit of more efficient production practices aligned with waste reduction.

This approach includes the reuse of stone fragments, which, over the years, including in 2024, have been used to create decorative pieces and renovate areas within the company. In addition, LSI Stone also delivers excess scraps and sludge, also known as “Natas”, to other companies that can find utility in and repurpose these materials. As previously outlined, the closed-loop water system is also a key element in the company’s circular economy, along with the water treatment system and rainwater harvesting, all of which help minimize water resource consumption during the sawing phase, contributing to the preservation of local ecosystems.

LSI Stone is looking for new ways to optimize raw material use, ensuring that the maximum value is extracted from the resources used and promoting a circular approach that benefits the environment and the company’s value chain, as well as increasing their markets opportunities.

Regarding hazardous waste from machine maintenance in the manufacturing process, LSI Stone does not generate this type of waste, as machine maintenance is carried out by external services, which ensure the proper collection and disposal of used oils, in compliance with environmental legislation. However, there are many hazardous and non-hazardous wastes used during the production process, and the company ensures they are sent to certified companies for proper treatment or for the reuse of parts, materials, or raw materials, if they cannot reuse

it. These wastes are detailed in the following table and are reported to the *Agência Portuguesa do Ambiente* (APA) at the beginning of the subsequent reporting period.

In addition to these practices, the company also holds the ISO 9001:2015 certification, which reflects the company's commitment to optimize operational efficiency, improving process effectiveness, and making the best use of its available resources.

Waste	Waste diverted to recycle or reuse (Ton)	Waste directed to disposal (Ton)
Non-hazardous waste		
Stone cutting and sawing waste	1268,56	-
Waste not otherwise specified	1,4	-
Hazardous waste		
Adhesive and sealant residues containing organic solvents or other hazardous substances	1,192	-
Water with oil from the oil/water separators	1,32	-
Packaging containing or contaminated by residues of hazardous substances	1,039	-
Absorbent pads, filter materials, cleaning cloths and protective clothing contaminated with hazardous substances	0,466	-
Metals	2,36	-

Table 5. Hazardous Waste

4.3. Basic Module – Social metrics

4.3.1. B8 – Workforce – General characteristics

Throughout the reporting period, the company employed a total of 62 workers, all residing in Portugal with different nationalities. From these employees, 13 were women, representing around 21% of the workforce, and 49 were men, representing around 79% of the workforce. These values demonstrate that the workforce is predominantly male.

During this year, based on an average of 52 employees, the company recorded a turnover rate of approximately 21%, corresponding to the departure of 11 employees for various reasons, including contract termination, the end of fixed term contracts, or other unspecified causes.

4.3.2. B9 – Workforce – Health and safety

The safety and well-being of employees is a top priority for LSI Stone. The company continuously implements measures to prevent accidents and reduce risks in the workplace. These include the use of appropriate personal protective equipment, clear demarcation of pedestrian and vehicle circulation zones, including designated crossing lines for visitors and administrative staff, and control of entry and exit records within the factory buildings.

During the period, 13 work-related accidents were recorded. In spite of none of these incidents resulted in fatalities, their occurrence highlights the need to have more preventive measures and risk control mechanisms.

Based on a total of 93.911 working hours, and assuming a standard workload of 2.000 average annual hours per full-time employee, the company calculated a recordable work-related accident rate of 27 per 100 workers.

4.3.3. B10 – Workforce – Remuneration, collective bargaining and training

The salary offered, by the company, on a entry level corresponds to the minimum wage in Portugal, during the period, that is 820€ per month, ensuring that the company is in compliance with legal requirements regarding minimum remuneration.

In terms of pay gender equality, the average hour remuneration is similar for men and women, standing at approximately 14€, this includes all wage components such as allowances and other benefits. This parity reflects a commitment to social responsibility.

With regard to professional training, the LSI Stone implemented an annual training plan of 40 hours per employee, aiming to promote the continuous development of skills. However, in this year, the plan showed significant differences, as male employees received only an average of 10 hours of training, while female employees only had access to only about 30 minutes. This difference is explained by the divergence in functions, as female employees are mainly in administrative positions, while male employees work in operational roles on the factory. Compared with the annual training plan, this result highlights the need to strengthen monitoring mechanisms to ensure that training hours are properly provided to all employees, and LSI Stone is committed to solve that.

As for collective bargaining, there were no collective agreements in place. Working conditions were defined directly between management and employees. Nevertheless, the organization maintain an open communication policy and regular dialogue with employees, fostering a collaborative and transparent work environment.

CHAPTER 5

Presentation of Calculations and Justification of Information

5.1. Basic Module – General information

5.1.1. B1 – Basis for preparation

The first chapter of the report presents several key pieces of information. The total balance sheet value and turnover, were obtained from the company's balance sheet and income statement. Information regarding registered address, legal form, and tax identification number (NIF) was obtained through the public information available by Ministério da Justiça (2025). The NACE Sector Classification Code was obtained through the website of the Official Journal of the European Union (2006).

BALANÇO EM 31 DE DEZEMBRO DE 2024 (modelo reduzido) — *Unidade monetária: Euro*

Rubricas	Notas	31 Dezembro 2024	31 Dezembro 2023
ACTIVO			
Activo não corrente			
Activos fixos tangíveis		12,779,884.15	8,373,939.17
Activos intangíveis		316,232.82	267,732.82
Investimentos financeiros		66,565.04	66,565.04
Créditos e outros ativos não correntes		78,990.28	
		13,241,672.29	8,708,237.03
Activo corrente			
Inventários		590,252.15	1,138,472.18
Clientes		5,348,268.61	3,983,274.84
Estado e outros entes públicos		317,007.84	290,917.43
Outros crédito a receber		2,033,012.76	1,941,257.52
Diferimentos		3,594.06	3,480.20
Outros activos correntes		25,800.00	16,200.00
Caixa e depósitos bancários		2,096,048.20	425,022.91
		10,413,983.62	7,798,625.08
Total ativo		23,655,655.91	16,506,862.11
CAPITAL PRÓPRIO E PASSIVO			
Capital próprio			
Capital subscrito		1,350,000.00	1,350,000.00
Reservas legais		107,964.62	107,964.62
Outras reservas		1,811,968.96	1,333,652.66
Ajustamentos/Outras variações no capital próprio		2,006,186.51	1,269,851.83
Resultado líquido do período		1,397,852.40	478,316.30
Total do capital próprio		6,673,972.49	4,539,785.41
Passivo			
Passivo não corrente			
Financiamentos obtidos		6,206,044.19	5,406,044.19
		6,206,044.19	5,406,044.19
Passivo corrente			
Fornecedores		1,255,605.43	1,479,223.71
Estado e outros entes públicos		305,957.45	257,411.96
Financiamentos obtidos		6,641,598.20	2,162,988.82
Diferimentos		18,846.59	757,632.89
Outros passivos correntes		2,553,631.56	1,903,775.13
		10,775,639.23	6,561,032.51
Total do passivo		16,981,683.42	11,967,076.70
Total do capital próprio e do passivo		23,655,655.91	16,506,862.11

Table 6. Balance Sheet

DEMONSTRAÇÃO DOS RESULTADOS POR NATUREZAS (modelo reduzido)
PERÍODO FINDO EM 31 DE DEZEMBRO DE 2024

Unidade monetária: Euro

Rendimentos e Gastos	Notas	2024	2023
Vendas e serviços prestados		8,469,014.32	7,148,893.59
Subsídios à exploração		16,330.34	1,137.50
Variação nos inventários da produção			-116,712.73
Custos das mercadorias vendidas e das matérias consumidas		-1,801,842.47	-1,476,447.07
Fornecimentos e serviços externos		-1,893,103.34	-1,932,638.27
Gastos com o pessoal		-1,722,557.67	-1,681,064.09
Outros rendimentos e ganhos		22,339.77	171,810.62
Outros gastos e perdas		-245,560.55	-142,115.91
Resultado antes de depreciações, gastos de financiamento e impostos		2,844,620.40	1,972,863.64
Gastos/reversões de depreciação e de amortização		-891,924.44	-970,877.04
Resultado operacional (antes de gastos de financimento e impostos)		1,952,695.96	1,001,986.60
Juros e gastos similares suportados		-554,843.56	-368,887.43
Resultado antes de impostos		1,397,852.40	633,099.17
Imposto sobre o rendimento do período			-154,782.87
Resultado líquido do período		1,397,852.40	478,316.30

Table 7. Income Statement



Figure 1. ISO 14001:2015

5.1.2. B2 – Practices, policies and future initiatives for transitioning towards a more sustainable economy

This chapter refers to the estimated amount of tons of CO_2 that were avoided with the use of photovoltaic panels, calculated based on the formula:

$$Possible\ tons\ of\ CO_2\ saved\ by\ Photovoltaic\ Panels = \frac{CO_2\ generated\ by\ Eletricity\ purchased\ (tons)}{Total\ Eletricity\ purchased\ (kWh)} * Total\ Electricity\ Consumed\ from\ Photovoltaic\ Panels$$

As mentioned, the water comes on average 96% from the company's WWTP, and the calculation was made by adding up the consumption per minute that each machine requires in operation. This translates to 243 liters of softened water and 5.309 liters of water recycled from the system.

5.2. Basic Module – Environmental Metrics

5.2.1. B3 – Energy and greenhouse gas emissions

The table below shows the total amount of electricity consumed by the photovoltaic panels. All values were verified using the panel brand's registration documents, and the only discrepancy was in April.

Energia	U.M.	Fator de conversão	Data	Qtd	Verificação	TOTAL ANUAL	TEP/ano
Eletricidade (Paineis Fotovoltaicos)	(kWh)	0,000215	01-01-2024 a 31-01-2024	22574	22557,4	485319,58	104,34
			01-02-2024 a 29-02-2024	28100	28099,7		
			01-03-2024 a 31-03-2024	35674	35674,4		
			01-04-2024 a 30-04-2024	35673	54986,2		
			01-05-2024 a 31-05-2024	63028	63028,2		
			01-06-2024 a 30-06-2024	53982	53982		
			01-07-2024 a 31-07-2024	69732	69732		
			01-08-2024 a 31-08-2024	60155	60155		
			01-09-2024 a 30-09-2024	42949	42949,2		
			01-10-2024 a 31-10-2024	29649	29649		
			01-11-2024 a 30-11-2024	22735	22735		
			01-12-2024 a 31-12-2024	21068	21067,9		
			capwatt power		504616,7 kWh		

Table 8. Consumption photovoltaic panels

The total energy purchased from a supplier was obtained through a similar table and, again, all values were checked and found to be correct.

Energia	U.M.	Fator de conversão	Data	Qtd		TOTAL ANUAL	TEP/ano
Eletricidade (Rede)	(Kwh)	0,000215	01-01-2024 a 10-02-2024	166340	166338	1184159,25	254,59
			11-02-2024 a 10-03-2024	105935	105935,25		
			11-03-2024 a 10-04-2024	106288,5	106288		
			11-04-2024 a 10-05-2024	89443,75	89443,75		
			11-05-2024 a 10-06-2024	86686	86686,25		
			11-06-2024 a 10-07-2024	86624	86624		
			11-07-2024 a 10-08-2024	74802	74801,25		
			11-08-2024 a 10-09-2024	54417	54416,5		
			11-09-2024 a 10-10-2024	85603	85603		
			11-10-2024 a 10-11-2024	104311	104311		
			11-11-2024 a 10-12-2024	125545	125545		
			11-12-2024 a 10-01-2025	98164	59652	Está certo com 11-12 a 31-12	
			capwatt retail eletricidade		1145644	kWh	

Table 9. Consumption electricity

The table represents values from a period different from the one studied, in this case from 01/01/2024 to 10/01/2025. Then, it was necessary to remove the days that do not belong to the period in question, and for this, the following formula was used:

$$Total\ Capwatt\ Retail\ Electricity$$

$$= Sum\ of\ Invoices - Values\ that\ do\ not\ belong\ to\ the\ period\ (2024)$$

$$Values\ that\ do\ not\ belong\ to\ the\ period$$

$$= \frac{Electricity\ Quantity\ (Last\ Month)}{Total\ Days\ (Last\ Month)} * Days\ Belonging\ to\ the\ Period$$

After analyzing the last table, it was not possible to identify which values were refereeing to renewable energy or non-renewable energy consumption. Therefore, a table was created using information included in the invoices to determine these consumptions by percentage.

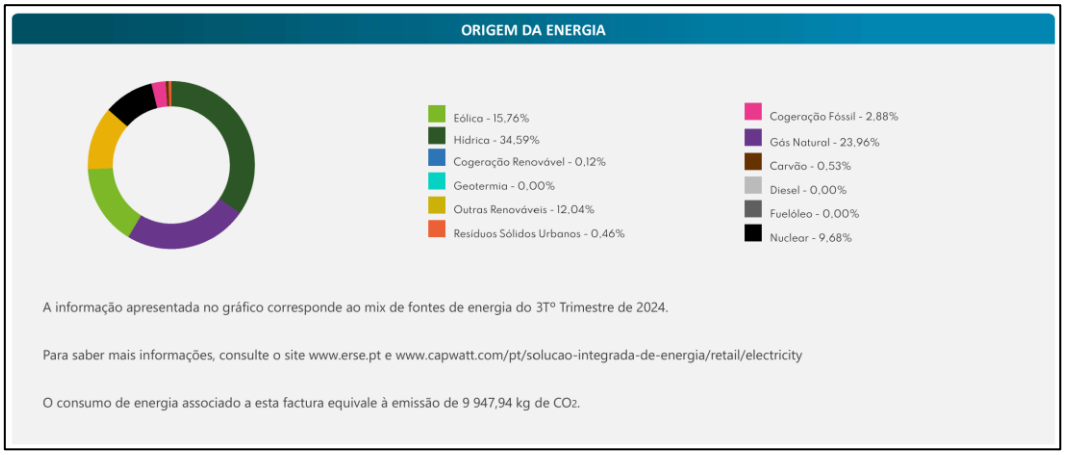


Figure 2. Electricity Origin

With this Figure, that was present in each supplier's invoice, as mentioned before, the amount of energy from renewable or non-renewable sources could be calculated, resulting in the following tables.

Origem da energia	%										
Éolico	Hídrico	Cogeração Renovável	Geotermia	Outras Renováveis	Resíduos Sólidos Urbanos	Cogeração Fóssil	Gás Natural	Carvão	Diesel	Fuelóleo	Nuclear	SOMA
9,7	17,3	0,1		6,9	1	5,7	50,1	0,7	0	0	8,5	100
9,67	17,28	0,13	0	6,86	0,98	5,72	50,05	0,7	0	0	8,61	100
11,23	20,13	0,13	0	8,18	0,88	5,93	42,94	0,69	0	0	9,89	100
11,23	20,13	0,13	0	8,18	0,88	5,93	42,94	0,69	0	0	9,89	100
12,61	29,6	0,11	0	7,27	0,79	2,71	37,89	0,54	0	0	8,48	100
12,61	29,6	0,11	0	7,27	0,79	2,71	37,89	0,54	0	0	8,48	100
12,61	29,6	0,11	0	7,27	0,79	2,71	37,89	0,54	0	0	8,48	100
12,61	29,6	0,11	0	7,27	0,79	2,71	37,89	0,54	0	0	8,48	100
12,21	30,13	0,12	0	8,33	0,95	2,73	35,9	0,56	0	0	9,07	100
15,76	34,59	0,12	0	12,04	0,46	2,88	23,96	0,53	0	0	9,66	100
15,76	34,59	0,12	0	12,04	0,46	2,88	23,96	0,53	0	0	9,66	100
15,76	34,59	0,12	0	12,04	0,46	2,88	23,96	0,53	0	0	9,66	100

Table 10. Electricity Origin by month

Consumo de energia associa a esta fatura (CO2)	Renovável	Não Renovável	T Renv (kWh)	T Não Ren (kWh)
36.394,85kg	34	66	56554,92	109783,1
23.199,77kg	33,94	66,06	35954,42	69980,83
23.277,07kg	39,67	60,33	42164,45	64123,55
19.588,2kg	39,67	60,33	35482,34	53961,41
18.984,23kg	49,59	50,41	42987,71	43698,54
18.970,66kg	49,59	50,41	42956,84	43667,16
16.381,64kg	49,59	50,41	37093,94	37707,31
11.917,31kg	49,59	50,41	26985,14	27431,36
12.705,20kg	50,79	49,21	43477,76	42125,24
10.570,88kg	62,51	37,49	65204,81	39106,19
12.722,73kg	62,51	37,49	78478,18	47066,82
9.947,94kg	62,51	37,49	37288,47	22363,53
			544629	601015

Table 11. Electricity division between renewable and non-renewable

The company under study does not keep a complete record of gasoline and diesel consumed. Therefore, a record was made of all existing invoices and the quantities in liters that the tables represented. Thus, the following table, already segmented, was constructed.

Gasolina	Gasolina 95	Gasolina Evologic	Gasolina Mistura	Gasolina Simples	Gasolina Ultimate	TOTAL
240,35	715,57	260,66	10	135,41	24,47	1386,46
Diesel E+10	**Gasóleo**	**Gasóleo Evologic**	**Gasóleo Simples**	**Gasóleo TOP**	**Ultimate Diesel**	**TOTAL**
30,32	28045,34	578,04	139,73	44,27	377,99	29215,69

Table 12. Gasoline and diesel consumption

For Gasoline and Diesel, it was necessary to convert to Megawatt-hours, since the amount consumed was expressed in liters, and ideally, all values should be expressed in the same unit of measurement for easy comparison between companies. To this end, a conversion to tons was initially made, where the fuel density was based on the document of CDP (Carbon Disclosure Project) (2016) and after this conversion to tons, the conversion was made to Terajoule and then to Megawatt-hour.

- Tons = Quantity consumed (L) * Density (Kg/L)/1000
- Terajoule= Tons *NCV(TJ/Gg)/1000
- 1 Terajoule = 277.778 Megawatt-hour

Values for calculation						
	Densidade (Kg/L)	NCV (TJ/Gg)	Tons	TJ		MWh
Diesel	0,84	43		24,54	1,055	293,13
Gasoline	0,74	44,3		1,03	0,04545	12,63
		(Lower Heating values)				
1 TJ = 10^12 J = 277,778 mWh		1 mWH = 3.600.000.000 J = 0,0036 TJ				

Table 13. Gasoline and diesel convertion to MWh

After obtaining the MWh values, it was necessary to distinguish between renewable and non-renewable quantities. Therefore, a percentage was used, according to which 11,50% of the fuel came from renewable fuels, such as biodiesel, and the respective amounts were calculated. This percentage was used because it is the minimum limit required in Portugal, according to Direção-Geral de Energia e Geologia (DGEG) (2022), on the date of their consumption, and after analyzing several invoices, it is concluded that on average all gas stations have this same percentage.

	Diesel	Gasoline
Total	293,13	12,63
Renewable	33,710064	1,451905925
Non Renewable	259,42	11,17
Percentage of Renewable	11,50%	

Table 14. Gasoline and diesel division between renewable and non-renewable

Natural gas is in the same situation as electricity, and the period reflected on invoices and in the company's records is different from the reporting period, as it begins on December 23, 2023, and ends on February 14, 2025. Therefore, the formula used was the same, causing the values for days outside the period to be reported in the respective years.

Energia	U.M.	Fator de conversão	Data	Qtd	Verificação	TOTAL ANUAL	TEP/ano
Gás Natural	kWh	1,077	23-12-2023 a 22-01-2024	5651	4509	53716,94	58,97
			23-01-2024 a 20-02-2024	5927	7550		
			20-02-2024 a 23-03-2024	3055	3055		
			23-03-2024 a 19-04-2024	2886	2886		
			20-04-2023 a 23-05-2024	3809	3809		
			24-05-2024 a 14-06-2024	2161	2161		
			15-06-2024 a 14-08-2024	6894	6894		
			15-08-2024 a 15-10-2024	6971	6971		
			16-10-2024 a 16-12-2024	13654	13654		
			17-12-2024 a 14-02-2025	14148	14148		
					65637		
			capwatt retail gas	53716,9 kWh		It's ok with less starting days	

Table 15. Natural Gas consumption

Regarding GHG emissions, the first thing done was calculating Scope 1, which includes gasoline, diesel, and natural gas. To do this, it was extracted the following information from United Nations Framework Convention on Climate Change (UNFCCC), which defines a methodology for calculating CO_2 emissions in a given country and sector of activity, in Portugal CRF 2019.

Emissions	
Gasoline	
Energy consumption (TJ)	45 289,57
Emission factor CO_2 (t/TJ)	71,945
Total emissions CO_2 (kt)	3 258,36
Diesel	
Energy consumption (TJ)	88 405,10
Emission factor CO_2 (t/TJ)	74,199747
Total emissions CO_2 (kt)	6 559,64
Natural Gas	
Energy consumption (TJ)	72686,51
Emission factor CO_2 (t/TJ)	56,34
Total emissions CO_2 (kt)	4095,02

Table 16. Emissions factor CO_2

As the value of Terajoules equivalent to the liters consumed had already been calculated previously, it was only necessary to use the following formula:

- Emission (t CO2 eq) = Emission factor CO_2 (t/TJ) * Conversion to TJ

	Quantity consumed	Unit	Conversion to TJ	Emission (t CO2 eq)	Scope
Gasoline	1386,46	L	0,04545	3,269967283	1
Diesel	29215,69	L	1,055	78,30082065	1
Natural Gas	53823,6	kWH	0,193764805	10,91670911	1
Electricity				214,66048	2

Table 17. Calculation of emissions

The amount of CO_2 emitted under Scope 2, in this case indirect emissions produced by other contracted services, is determined by the amount generated by the electricity purchase. This amount is stated on invoices and amounts to 214,66 tons of CO_2.

The sum of all Scope 1 and Scope 2 items resulted in a total of 307,15 tons of CO_2, as can be seen in the following table.

Total tCo2 eq Scope 1	92,48749704
Total tCo2 eq Scope 2	214,66048
Total	307,147977

Table 18. Total Emissions Scope 1 and Scope 2

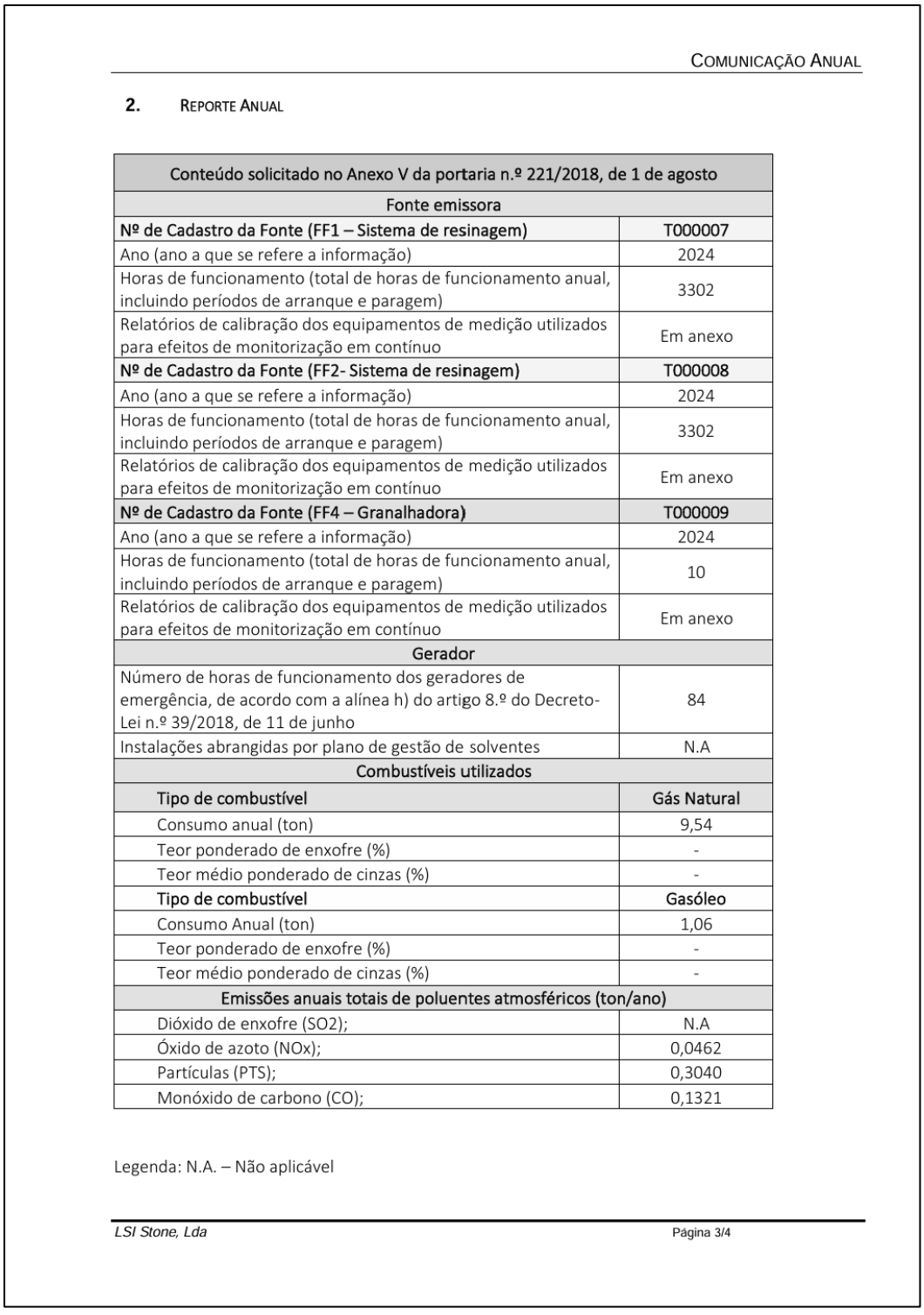
Finally, to calculate emissions intensity, the total amount of both Scopes was divided by the total turnover. Then, the conversion to grams was performed, as the value in tons of CO_2 was not very representative, despite being presented for good comparability.

	Quantity	Unit	Equivalent	
Total Scope 1 + Scope 2	307,15	Tons	-	
Volume de negócios	8469014,32	€	-	
Emission intensity	3,6267E-05	tons	36,27	Grams

Table 19. Emissions intensity

5.2.2. B4 – Pollution of air, water and soil

In this chapter, the information presented was taken from the annual communication that the company is, by law, required to make, in order to report all atmospheric pollutants.



COMUNICAÇÃO ANUAL

2. REPORTE ANUAL

Conteúdo solicitado no Anexo V da portaria n.º 221/2018, de 1 de agosto	
Fonte emissora	
Nº de Cadastro da Fonte (FF1 – Sistema de resinagem)	**T000007**
Ano (ano a que se refere a informação)	2024
Horas de funcionamento (total de horas de funcionamento anual, incluindo períodos de arranque e paragem)	3302
Relatórios de calibração dos equipamentos de medição utilizados para efeitos de monitorização em contínuo	Em anexo
Nº de Cadastro da Fonte (FF2- Sistema de resinagem)	**T000008**
Ano (ano a que se refere a informação)	2024
Horas de funcionamento (total de horas de funcionamento anual, incluindo períodos de arranque e paragem)	3302
Relatórios de calibração dos equipamentos de medição utilizados para efeitos de monitorização em contínuo	Em anexo
Nº de Cadastro da Fonte (FF4 – Granalhadora)	**T000009**
Ano (ano a que se refere a informação)	2024
Horas de funcionamento (total de horas de funcionamento anual, incluindo períodos de arranque e paragem)	10
Relatórios de calibração dos equipamentos de medição utilizados para efeitos de monitorização em contínuo	Em anexo
Gerador	
Número de horas de funcionamento dos geradores de emergência, de acordo com a alínea h) do artigo 8.º do Decreto-Lei n.º 39/2018, de 11 de junho	84
Instalações abrangidas por plano de gestão de solventes	N.A
Combustíveis utilizados	
Tipo de combustível	**Gás Natural**
Consumo anual (ton)	9,54
Teor ponderado de enxofre (%)	-
Teor médio ponderado de cinzas (%)	-
Tipo de combustível	**Gasóleo**
Consumo Anual (ton)	1,06
Teor ponderado de enxofre (%)	-
Teor médio ponderado de cinzas (%)	-
Emissões anuais totais de poluentes atmosféricos (ton/ano)	
Dióxido de enxofre (SO2);	N.A
Óxido de azoto (NOx);	0,0462
Partículas (PTS);	0,3040
Monóxido de carbono (CO);	0,1321

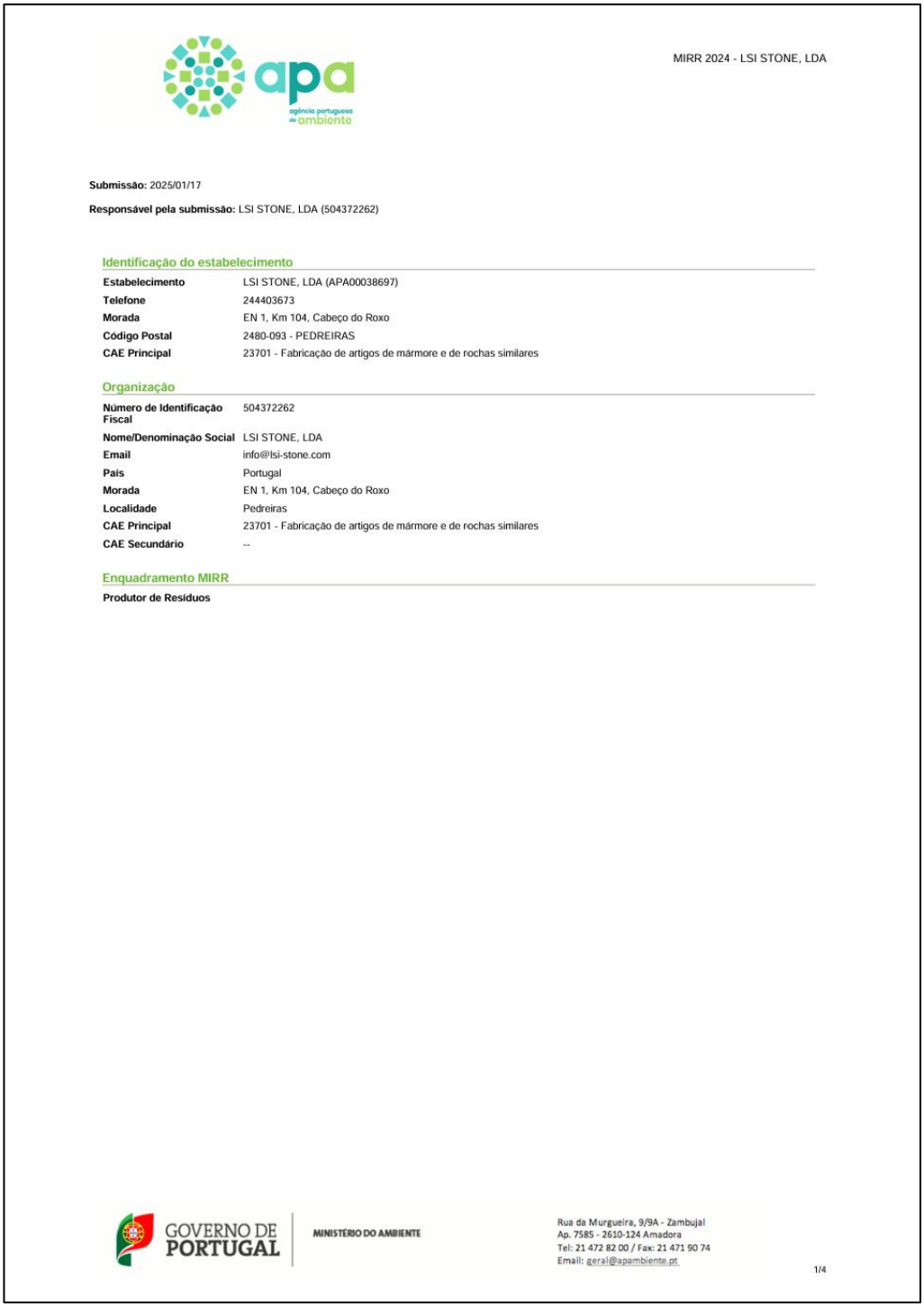
Legenda: N.A. – Não aplicável

LSI Stone, Lda Página 3/4

Figure 3. Annual Report of Emissions

5.2.3. B7 – Resource use, circular economy and waste management

In the seventh chapter, the company's annual waste production information was determined through the document the company submits to the APA. The data was taken directly from the document and included in the report.



MIRR 2024 - LSI STONE, LDA

Submissão: 2025/01/17

Responsável pela submissão: LSI STONE, LDA (504372262)

Identificação do estabelecimento

Estabelecimento	LSI STONE, LDA (APA00038697)
Telefone	244403673
Morada	EN 1, Km 104, Cabeço do Roxo
Código Postal	2480-093 - PEDREIRAS
CAE Principal	23701 - Fabricação de artigos de mármore e de rochas similares

Organização

Número de Identificação Fiscal	504372262
Nome/Denominação Social	LSI STONE, LDA
Email	info@lsi-stone.com
País	Portugal
Morada	EN 1, Km 104, Cabeço do Roxo
Localidade	Pedreiras
CAE Principal	23701 - Fabricação de artigos de mármore e de rochas similares
CAE Secundário	--

Enquadramento MIRR

Produtor de Resíduos

GOVERNO DE PORTUGAL | MINISTÉRIO DO AMBIENTE

Rua da Murgueira, 9/9A - Zambujal
Ap. 7585 - 2610-124 Amadora
Tel: 21 472 82 00 / Fax: 21 471 90 74
Email: geral@apambiente.pt

1/4

Figure 4. APA Submission



Figure 5. ISO 9001:2015

This certification proves the commitment that the company has with improving their resource management and reflect that the company is always trying to optimize operational matters.

5.3. Basic Module – Environmental Metrics

5.3.1. B8 – Workforce – General characteristics

The general characteristics of the workforce required the percentages and values of employees arrivals and departures. These values were obtained by adding together completed and initiated contracts.

Mapas definidos de Funcionários - Entradas e saídas 2024 -

Nome	Data de ad	Data de sa	Inicio do	Fim do con	Sexo	Tipo de co
REGINA MARIA ROSA VITORIO	01.10.2001	01.01.1900	01.10.2001	01.01.1900	F	10
PEDRO MANUEL SANTANA VAZAO	02.05.2003	01.01.1900	02.05.2003	01.01.1900	M	10
SAMUEL DOS SANTOS ANTUNES	01.10.2005	01.01.1900	01.10.2005	01.01.1900	M	10
VALDEMAR ANTONIO FERREIRA FIDALGO	01.06.2007	01.01.1900	01.06.2007	01.01.1900	M	10
MARIA DA GRACA ROSA VITORIO	03.03.2014	01.01.1900	03.03.2014	01.01.1900	F	10
PAULO JORGE ALEXANDRE DE SOUSA	08.10.2015	01.01.1900	08.10.2015	01.01.1900	M	10
LUIS CARLOS TOMAS RODRIGUES	10.03.2016	01.01.1900	10.03.2016	01.01.1900	M	10
NUNO PATRICIO BERNARDO COSTA	01.09.2016	01.01.1900	01.09.2016	01.01.1900	M	10
FILIPE DOS SANTOS ALMEIDA	02.09.2019	01.01.1900	02.09.2019	01.01.1900	M	10
CARLOS ANTONIO FRANCO DE CARVALHO DOMINGOS	20.11.2017	01.01.1900	20.11.2017	01.01.1900	M	10
DANY ABREU	02.07.2018	01.01.1900	02.07.2018	01.01.1900	M	10
HELENA DOS SANTOS BECKER CARREIRA	11.03.2019	10.09.2024	11.03.2019	09.09.2024	F	10
ELIO FILIPE RODRIGUES DOS SANTOS	08.03.2019	01.01.1900	08.03.2019	01.01.1900	M	10
HUMBERTO JOSE LABORINHO DELGADO	18.04.2019	01.01.1900	18.04.2019	01.01.1900	M	10
JOSE AFONSO FRANCISCO SANTANA	23.08.2019	01.01.1900	23.08.2019	01.01.1900	M	10
MARIO FRANCISCO MATIAS COELHO AGOSTINHO	27.08.2019	01.01.1900	27.08.2019	01.01.1900	M	10
RUBEN ALEXANDRE NEVES DE ALMEIDA	02.09.2019	04.04.2024	02.09.2019	01.01.1900	M	10
DAVID MIGUEL SANTOS MANECAS	23.09.2019	01.01.1900	23.09.2019	01.01.1900	M	10
HELDER JOSE MATOS CARVALHO	06.01.2020	01.01.1900	06.01.2020	01.01.1900	M	10
CRISTINA ISABEL PRAGOSA LUCAS	06.01.2020	23.02.2024	06.01.2020	01.01.1900	F	10
VASYL OSTAFIYCHUK	02.12.2019	01.01.1900	02.12.2019	01.01.1900	M	10
JOAO PEDRO SANTANA RIBEIRO	03.02.2020	01.01.1900	03.02.2020	01.01.1900	M	10
GUSTAVO NEVES MADEIRA	27.04.2020	01.01.1900	27.04.2020	01.01.1900	M	10
ADRIANA FILIPA DO NASCIMENTO VIEIRA	24.08.2020	01.01.1900	24.08.2020	01.01.1900	F	10
RODRIGO SALVADOR FINO PEREIRA	30.08.2021	01.01.1900	30.08.2021	01.01.1900	M	10
CELSO VENDA COELHO	01.08.2022	01.01.1900	01.08.2022	01.01.1900	M	10
DAVID ALEXANDRE MARQUES OLIVEIRA	16.08.2023	01.01.1900	17.08.2024	16.08.2025	M	20
GURPREET	02.10.2023	08.01.2025	02.10.2023	01.10.2024	M	20
VAKIL	02.10.2023	01.01.1900	02.10.2024	01.10.2025	M	20
ANTONIO JOSE FRADE ROSADO	23.10.2023	01.01.1900	23.10.2024	22.10.2025	M	20
EDGAR MOREIRA VERGILIO	01.11.2023	01.01.1900	01.11.2023	01.01.1900	M	10
IBRAIMO FILIPE SEMEDO	15.03.2024	01.01.1900	16.09.2024	15.03.2025	M	20
ZUNEIDY RAMADANE DOS ANJOS VIAGE	15.03.2024	01.01.1900	16.09.2024	15.03.2025	M	20
LOVEPREET	22.05.2024	01.01.1900	23.11.2024	22.05.2025	M	20
AMAN KUMAR	22.05.2024	01.01.1900	22.05.2024	22.11.2024	M	20
GLEICIANE DE PAULA	22.05.2024	31.07.2024	22.05.2024	22.11.2024	F	20
LUIS RENATO DA SILVA VIEIRA	03.01.2011	01.01.1900	03.01.2011	01.01.1900	M	10
FLAVIA VITORIO FERREIRA	02.01.2012	01.01.1900	02.01.2012	01.01.1900	F	10
NUNO GONCALO ALEXANDRE JORGE	01.10.2012	01.01.1900	01.10.2012	01.01.1900	M	10
ANDRE RIBEIRO VAZAO	01.10.2012	01.01.1900	01.10.2012	01.01.1900	M	10
DIOGO FILIPE VIEIRA VALA	21.10.2013	01.01.1900	21.10.2013	01.01.1900	M	10
HELDER CARVALHO LOURENCO	02.01.2023	01.01.1900	02.01.2024	01.01.1900	M	10
JERALD VICENT	21.04.2023	27.04.2024	21.04.2023	20.10.2023	M	20
SOUNDARARAJAN GOPALRAJA	21.04.2023	29.02.2024	21.04.2023	20.10.2023	M	20
ANA RITA OLIVEIRA RAMALHO CAEIRO	01.02.2024	01.01.1900	01.02.2024	01.01.1900	F	10
TIAGO COSTA RIBEIRO	11.09.2023	01.01.1900	11.09.2023	01.01.1900	M	10
DANIELLI APARECIDA DUTRA SUSSAI	01.04.2024	01.01.1900	02.10.2024	01.04.2025	F	20
SORAIA JORGE HORTA	01.06.2022	01.01.1900	01.12.2022	01.01.1900	F	10
SIVAPRAKASH MUNIASAMY	16.02.2023	01.01.1900	16.02.2024	01.01.1900	M	10
PATRICIA SANTOS FINO	05.09.2023	01.01.1900	05.09.2023	01.01.1900	F	10
CRISTOVAO MANUEL FERREIRA ALMEIDAO	02.09.2024	01.01.1900	02.09.2024	01.01.1900	M	20
ANA RITA RODRIGUES CORDEIRO	05.09.2023	21.06.2024	05.09.2023	01.01.1900	F	10
BHARAT	02.10.2023	01.01.1900	02.10.2024	02.10.2025	M	20
PEDRO MIGUEL BENTO DOS REIS	21.06.2022	01.01.1900	21.12.2022	01.01.1900	M	10
RUI MIGUEL RODRIGUES DE SOUSA	11.12.2023	01.01.1900	11.12.2024	10.12.2025	M	20
LUIS FILIPE FERREIRA MARTINS	01.07.2022	01.01.1900	01.01.2023	01.01.1900	M	10
RANDEEP	02.10.2023	31.01.2024	02.10.2023	01.10.2024	M	20
ROHIT BIHAN	02.10.2023	01.01.1900	02.10.2023	01.10.2024	M	20
BRUNA DANIELA SANTANA MOREIRA	22.02.2022	31.10.2024	22.08.2022	21.02.2023	F	20
LEANDRO MIGUEL LUCAS SIMOES DA SILVA	05.06.2024	01.01.1900	05.06.2024	01.01.1900	M	10
GURCHARAN	06.08.2024	01.01.1900	09.08.2024	09.02.2025	M	20
RUI FILIPE VAZAO OLIVEIRA	01.01.1900	01.01.1900	09.10.2024	01.01.1900	M	20

Table 20. Employee arrivals and departure

The formula used to calculate the turnover rate was the same as the indicated by the VSME Standard, which is:

$$\frac{Number\ of\ employees\ who\ left\ during\ the\ reporting\ year}{Average\ number\ of\ employees\ during\ the\ reporting\ year} * 100$$

5.3.2. B9 – Workforce – Health and safety

The information in this chapter was taken from the work accident records and the formula used, as in the previous chapter, was the same as VSME Standard:

$$\frac{Number\ of\ work\ related\ accidents\ in\ the\ reporting\ year}{Total\ number\ of\ hours\ worked\ in\ a\ year\ by\ all\ employees} * 200.000$$

2024	1	04/01/2024	1º Trimestre	26	Rúben Almeida	8	09/07/2024	3º Trimestre	43	David Oliveira
	2	12/02/2024	1º Trimestre		Tiago Ribeiro	9	11/07/2024	3º Trimestre	23	Vakil
	3	01/04/2024	2ºTrimestre		Mário Agostinho	10	15/07/2024	3º Trimestre	53	Vasly
	4	19/04/2024	2ºTrimestre	33	Dany Abreu	11	18/07/2024	3º Trimestre	24	Tiago Ribeiro
	5	29/04/2024	2ºTrimestre	53	Vasly	12	08/09/2024	3º Trimestre	56	Pedro Vazão
	6	14/05/2024	2º Trimestre	23	Rohit	13	25/10/2024	4º Trimestre	26	Bahrat
	7	12/06/2024	2º Trimestre	55	Humberto Delgado					

Table 21. Work related accidents

CHAPTER 6

Conclusion

The preparation of this project, under the VSME ED, provided a valuable opportunity to evaluate the practicality and applicability of its requirements for non-listed SMEs. By responding to the *VSME ED Public Consultation Questionnaire* asked by EFRAG Secretariat (2024), it was possible to identify the main benefits, challenges, and cost implications, that emerge from the preparation of the disclosures included in the Basic Module, specifically B1 to B12.

6.1. Benefits, challenges, and cost implications

The general objective of the VSME ED is well aligned with the needs of SMEs. The Basic Module, in particular, represents a simplified entry point for sustainability reporting that has the potential to replace a significant number of ESG questionnaires that are currently requested by lenders, investors, and corporate clients. By providing a standardized methods of report, it helps SMEs to simplify the provision of sustainability information while at the same time increase their internal control of sustainability performance, contributing for a more sustainable and inclusive economy. This dual role enhance transparency and competitiveness and revealed to not cause disproportionate burdens on companies.

The choice to prepare only the Basic Module proved to be both feasible and proportionate, also it demonstrated to serve as the entry level and can be used on a individual basis, without the Narrative-PAT and Business Partners Modules. Its simplified language, together with its structure, and all the guidelines made it understandable for the preparation without reporting experience. At the same time, the framework ensures consistency and comparability across companies, that will be reflected when more companies start to use the report. This assurance is reflected in many aspects of the standard, for example, the recommendation to prepare the sustainability report on a consolidated basis for undertakings that are parent of other companies groups, that allows stakeholders to truly comprehend companies information. Other good example, is the sector related information, that is often critical to ensure that disclosures are relevant, faithful, comparable and understandable.

However, while many disclosures were accessible and relatively easy to implement, others were more significant challenging, but the guidelines present in the draft helped to face that challenges. One example of these challenges is the environmental disclosures, particularly those related to greenhouse gas emissions, that required more technical knowledge and systematic content learning. However, other disclosures did not need to be collected because were already reported and required by law. These disclosures were *B4 – Pollution of air, water and soil* and *B7 – Resource use, circular economy and waste management*.

During the writing process, one of the main obstacles was to manage and organize all the data that the company had. For example, while workforce disclosures, such as general characteristics, health and safety, or remuneration, were relatively straightforward to collect and to report, but hard to organize, others like environmental indicators were more difficult to measure, collect and get the final result.

Another significant challenge is related to the availability of skills and resources. Many SMEs do not employ specialized workers capable of carrying out environmental measurements and calculations, which often makes it necessary to rely on external consultation. However, the Basic Module is ideally to produce all the disclosures with limited help of consultants. With this, it is more likely that the company would allocate this project to an employee. The time spent on the project was carried out in three phases, the preparation, the evidence collection and the report writing. All of this took approximately two mounds of work, only counting working days and eight hours per day. Considering these two months of work, the estimated internal cost of preparing such a report, with one employee dedicated to the task, would be around 3.674,2€, in Portugal (PORDATA, 2023). This would represent the initial costs required to implement the sustainability report. In the following years, the process would become faster, however, the report could evolve additional aspects, such as employees actively seeking to reduce the company's environmental footprint or writing a conclusion with a comparation of the previous year.

6.2. Limitations

It is important to consider the limitations associated with this project. Its limited duration, restricted a good evaluation of the long-term effects of applying the model, within the company. Additionally, the research presents empirical restrictions, as it was conducted within a single

organization rather than across multiple cases. The absence of external assurance may also affect the comparability and credibility of the results.

This focus on only one company limits the generalizability of the findings, even though it allowed a more detailed analysis. Future research could therefore extend this work by applying the same methodology to a broader sample of SMEs, enabling comparative insights, or take a longer period of study and evaluate the effectiveness of the model over time.

6.3. Future Research Suggestions

Based on the previous limitations and the results obtained, it would be valuable to study the long-term impact of applying this kind of sustainability reporting framework. A longitudinal perspective could show, for example, whether continuous use of the VSME contributes to real progress in sustainability reports to stakeholders, how was the employee engagement, or even what changes occur in resource efficiency management over time. These findings could help clarify whether the framework's benefits go beyond transparency and applicability.

Another area that deserves attention is how the integration of market benchmarks could strengthen the usefulness of sustainability reporting. Creating aggregated data by sector or market, based on companies that apply the VSME, could help organizations to evaluate their own performance in context. If this type of benchmarking were included as part of the reporting process, it could serve as a management tool, allowing SMEs to identify strengths, weaknesses, and opportunities to improve. This approach would help giving the model the dual purpose to, not only to fulfill report the disclosures, but also to have a better support on internal strategic planning.

Lastly, it would be relevant for future research to explore how the VSME model performs in terms of comparability between companies of different sizes. Although all entities within the standard scope are considered SMEs, they vary significantly in their structure. Understanding whether the framework ensures a good comparability among different size companies could help to determine whether this condition affects the quality and consistency of the sustainability information, analyzed by stakeholders.

6.4. Conclusion

In summary, the preparation of the sustainability report proved to be very important for good conclusions regarding the viability of the standard, proposed by EFRAG. The practical process of preparing the sustainability report, turn the responses of the *VSME ED Public Consultation Questionnaire* much clear, which would not have been possible otherwise. Furthermore, it is a much more visual result of the capability of the VSME ED and what non-listed SMEs can achieve by applying it. Also, it allows the company to use this as a supporting tool for the elaboration of the sustainability report in the next years.

All in all, for the company, the preparation of the Basic Module revealed important benefits. The adoption will possibly lead to a greater awareness of sustainability issues, among management and staff, and will encourage better monitoring of resource use and performance indicators, that can help identify opportunities for efficiency gains, particularly in areas such as resource consumption. Although, the company identify that it is very important to have a benchmark of the industry results in values presented, so they can improve their operations and present to stakeholder their positions. At the same time, it will improve the company's ability to respond to requests for information from stakeholders, as the disclosures are standardized and therefore reduce the need to respond to multiple, and often inconsistent, questionnaires and reduce the need of searching for information. This leads to the conclusion that the VSME is an effective framework for companies that want to begin reporting on sustainability matters, representing an important step toward harmonizing non-listed SMEs sustainability reporting while providing multiple benefits without imposing disproportionate burdens.

Bibliographical References

Adloff, F., & Neckel, S. (2019). Futures of sustainability as modernization, transformation, and control: a conceptual framework. *Sustainability Science*, *14*(4), 1015–1025. https://doi.org/10.1007/s11625-019-00671-2

Allgeier, S., & Feldmann, R. (2023). *CSRD Sustainability Reporting For Non-listed SMEs: European Regulators Remain Challenged*. https://t1p.de/j75j5

Atanasov, A. (2024). Who Benefits from Sustainability Reporting? Insights for Non-Listed SMEs. *Izvestia Journal of the Union of Scientists - Varna Economic Sciences Series*, *13*(1), 90–100. https://doi.org/10.56065/IJUSV-ESS/2024.13.1.90

Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). Impact of ESG performance on firm value and profitability. In *Borsa Istanbul Review* (Vol. 22, pp. S119–S127). Borsa Istanbul Anonim Sirketi. https://doi.org/10.1016/j.bir.2022.11.006

Camille Branquart. (2024). *Breaking Down the VSME: The Foundation for the New Voluntary Standards*. Greenomy.

Carroll, A. B. (1979). A Three-Dimensional Conceptual Model of Corporate Performance. In *Source: The Academy of Management Review* (Vol. 4, Issue 4).

Católica Lisbon School of Business & Economics. (2024). *Apenas 15% das PME publicam relatórios com informação sobre sustentabilidade*. https://clsbe.lisboa.ucp.pt/pt-pt/noticias/apenas-15-das-pme-publicam-relatorios-com-informacao-sobre-sustentabilidade

CDP (Carbon Disclosure Project). (2016). *Conversion of fuel data to MWh*. https://cdn.cdp.net/cdp-production/cms/guidance_docs/pdfs/000/000/477/original/CDP-Conversion-of-fuel-data-to-MWh.pdf

Chytis, E., Eriotis, N., & Mitroulia, M. (2024). ESG in Business Research: A Bibliometric Analysis. *Journal of Risk and Financial Management*, *17*(10). https://doi.org/10.3390/jrfm17100460

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed). SAGE Publications, Inc.

Direção-Geral de Energia e Geologia (DGEG). (2022). *Biocombustíveis em Portugal*. https://www.dgeg.gov.pt/pt/areas-setoriais/energia/eficiencia-energetica/biocombustiveis/biocombustiveis-em-portugal/

EFRAG. (2025). *About us - General Presentation*. https://www.efrag.org/en/about-us

EFRAG Secretariat. (2024). *Questionnaire VSME Exposure Draft: Public Consultation – January 2024*.

European Commission. (2025a, February). *Omnibus I package - Commission simplifies rules on sustainability and EU investments, delivering over €6 billion in administrative relief*. https://finance.ec.europa.eu/publications/omnibus-i-package-commission-simplifies-rules-sustainability-and-eu-investments-delivering-over-eu6_en

European Commission. (2025b, July 30). *Commission presents voluntary sustainability reporting standard to ease burden on SMEs*. https://finance.ec.europa.eu/publications/commission-presents-voluntary-sustainability-reporting-standard-ease-burden-smes_en

European Union. (2006). *REGULATION (EC) No 1893/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL*. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32006R1893

European Union. (2022). *Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (Text with EEA relevance)*. https://eur-lex.europa.eu/eli/dir/2022/2464/oj/eng

Ferreira, P., & Gabriel, C. (2019). *Social responsible practices in Portuguese SME's Prácticas socialmente responsables en PYMES Portuguesas* (Vol. 40, Issue 7). https://www.researchgate.net/publication/336926601

Fonseca, L., & Ferro, R. (2016). *Does it pay to be social responsible? Portuguese SMEs feedback*. https://doi.org/10.3926/ic.712

Gokten, S., Ozerhan, Y., & Gokten, P. O. (2020). The historical development of sustainability reporting: a periodic approach. *Zeszyty Teoretyczne Rachunkowości*, *107*(163), 99–118. https://doi.org/10.5604/01.3001.0014.2466

IFRS® Foundation. (2021). *Proposed targeted amendments to the IFRS Foundation constitution to accommodate an international sustainability standards board to set IFRS sustainability standards*. International Accounting Standards Board.

Instituto Nacional de Estatística (INE). (2025). *Dia Internacional das Micro, Pequenas e Médias Empresas – 27 de junho de 2025*.

James. (1955). *Estate Account of the East of Northumberland* (Society, Ed.; Vol. 163).

KPMG. (2022). *Big shifts, small steps; Survey of Sustainability Reporting 2022.* https://kpmg.com/pt/pt/home/insights/2023/06/survey-of-sustainability-reporting-2022.html

Latapí Agudelo, M. A., Jóhannsdóttir, L., & Davídsdóttir, B. (2019). A literature review of the history and evolution of corporate social responsibility. *International Journal of Corporate Social Responsibility*, *4*(1). https://doi.org/10.1186/s40991-018-0039-y

Maxwell, J. A., & Reybold, L. E. (2015). Qualitative Research. In *International Encyclopedia of the Social & Behavioral Sciences: Second Edition* (pp. 685–689). Elsevier Inc. https://doi.org/10.1016/B978-0-08-097086-8.10558-6

Ministério da Justiça. (2025). *Publicações do Ministério da Justiça*. https://publicacoes.mj.pt/pesquisa.aspx

Nishihara, M. (2023). Corporate sustainability, investment, and capital structure. *Annals of Operations Research*. https://doi.org/10.1007/s10479-023-05699-3

Ortiz-Martínez, E., & Marín-Hernández, S. (2024). Sustainability Information in European Small- and Medium-Sized Enterprises. *Journal of the Knowledge Economy*, *15*(2), 7497–7522. https://doi.org/10.1007/s13132-023-01386-7

PORDATA. (2023). *Ganho médio mensal por grupo profissional*. https://www.pordata.pt/pt/estatisticas/salarios-e-pensoes/salarios/ganho-medio-mensal

Setyaningsih, S., Widjojo, R., & Kelle, P. (2024). Challenges and opportunities in sustainability reporting: a focus on small and medium enterprises (SMEs). *Cogent Business and Management*, *11*(1). https://doi.org/10.1080/23311975.2023.2298215

Unegbu, A. O. (2014). Theories of Accounting: Evolution & Developments, Income-Determination and Diversities in Use. In *Research Journal of Finance and Accounting www.iiste.org ISSN* (Vol. 5, Issue 19). www.iiste.org

United Nations Framework Convention on Climate Change (UNFCCC). (2015). *Portugal CRF 2019*. https://unfccc.int/documents/194483

World Resources Institute. (2023, August 16). *AQUEDUCT Water Risk Atlas*. https://www.wri.org/applications/aqueduct/water-risk-atlas/

Zeff, S. A. (2012). The evolution of the IASC into the IASB, and the challenges it faces. In *Accounting Review* (Vol. 87, Issue 3, pp. 807–837). https://doi.org/10.2308/accr-10246