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**The Role of Sustainability Reporting
and Transparency Disclosure
of Public Utility Companies**

Marcela Ciubotaru
Emanuele Vendramini

Quaderno n. 156/marzo 2022

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Marcela Ciubotaru, Dipartimento di Scienze Economiche e Sociali, Università Cattolica del Sacro Cuore, Piacenza

Emanuele Vendramini, Dipartimento di Scienze Economiche e Sociali, Università Cattolica del Sacro Cuore, Piacenza

✉ marcela.ciubotaru@unicatt.it

✉ emanuele.vendramini@unicatt.it

I quaderni possono essere richiesti a:
Dipartimento di Scienze Economiche e Sociali,
Università Cattolica del Sacro Cuore
Via Emilia Parmense 84 - 29122 Piacenza - Tel. 0523 599.333
<http://dipartimenti.unicatt.it/dises>

✉ dises-pc@unicatt.it

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ISBN 978-88-343-5196-3

Abstract. The purpose of this research is to investigate the compliance between transparency in reporting practices and the level of accountability in public energy utility companies. Our study aims to extend the knowledge of transparency within reporting practices by highlighting the connection between accountability in the public utility companies and transparency disclosure regarding economic, environmental, and social aspects. To this end, the paper focuses on companies' sustainability reports and their degree of transparency in relation to GRI guidelines. Adopting stakeholder theory, this research empirically analyses 41 European public utilities companies, operating in the energy sector, providing sustainability or non-financial reports. The analysis focused on 2017 as the reporting year, considering the year as the first one to comply with new regulations and disclosure standards of the EU Directive and accomplish with the GRI guidelines. The research contributes to the scientific literature on public utilities by providing evidence how public companies enhance and emphasize accountability and disclosure of economic, environmental, and social information. Secondly, it contributes to the field of transparency in reporting practices by emphasizing the link between the power of disclosing transparency information and reporting practices in public utility companies.

Keywords: Transparency; Accountability; Disclosure; Reporting Practices; Sustainability Indicators

J.E.L. classification: M14, M48, Q01, Q40, Q56

1. Introduction

Transparency in reporting practices plays a central role in enhancing accountability, governance, and management (Bastida and Benito, 2007; Douglas and Meijer, 2016) and is seen as a preliminary condition to react to continuous struggles and challenges from globalization, evolving societies, and stakeholder's expectations (Parker, 2013). Reporting practices aim to monitor and disclose the internal operating of any company (Grimmelikhuijsen and Meijer, 2014) by responding to financial, social, and environmental sustainability challenges (Hood and Heald, 2006).

In this research, we aim to cover the need for further research on public companies (Cheng et al., 2014; Bartocci and Picciaia, 2013) by investigating how can public utility companies comply with transparency and accountability regulations in ensuring sustainability and accountability disclosure. The purpose of this research is to investigate the compliance between transparency in reporting practices and accountability in public energy utilities. This research extends the analysis of the reporting practices of public utilities under the transparency perspective through the multidisciplinary role of non-financial reports able to enhance and build public responsibility. This research is based on an empirical analysis of 41 public utilities companies, operating in the energy sector, that provide sustainability or non-financial reports under GRI guidelines. The analysis focused on reports from 2017, as being the first year that companies had to comply with the Directive 2014/95/EU and disclose relevant non-financial information.

This paper will proceed as follows: Firstly, in section 2 we will provide the major aspects from the literature on transparency in public accountability, capturing some important insights on measuring transparency and accountability disclosure of public entities. Section 3 will shed light on theories that support transparency practices and reporting in the public utility companies, enhancing the research under the stakeholder lens. Section 4 describes the research design, focusing on the methodological aspect, providing quantitative and qualitative evidence from an

empirical analysis which covers data from 41 non-financial reports of public utility companies operating in energy utilities sector. In section 5, we describe the results of the analysis. In the final section, we highlight the practical and theoretical insights that may be useful for increasing transparency among public utilities companies.

2. Literature background

The literature on transparency of reporting practices in public utility companies is very articulated. Since public utilities respond to a wide flow of internal and external stakeholders, their disclosure requirements are higher than in other sectors. Thus, companies are challenged to address the economic, environmental, and social dimensions of their operations (Bellver and Kaufman, 2005; Grimmelikhuijsen, 2012; Stefanescua et al., 2016). Emphasizing the stakeholder perspective in public utility companies, scholars perceive transparency as “...*a relational concept or communication process*” (Bauhr and Grimes, 2014). We thus enter this debate by understanding transparency - in line with Grimmelikhuijsen and Meijer (2014) and Meijer (2012) - “...*as the availability of information about an organization or actor allowing external actors to monitor the internal workings or value of that organization*” (Douglas and Meijer, 2016, p. 941).

As mentioned by Florini (2007) and Roberts (2006), enhancing transparency is fundamental to improve accountability disclosure and decision-making process. Scholars have pointed out that a combination of government capacity and external pressures are important for determining the degree of transparency (Grimmelikhuijsen et al., 2017).

In order to focus the attention on sustainable disclosure in public utilities, research is emerging within the debate on corporate transparency, with a specific focus on green management (Vaccaro and Echeverri, 2010). Scholars have brought to evidence several insights. First, it seems that customers are more willing to adopt pro-environmental behaviours when they clearly perceive the organization’s environmental transparency. On this point, scholars

highlight that transparency can highly contribute to the company's *corporate sustainability* (Enderle and Tavis, 1998; Van Marrewijk, 2003), to the adoption of *pro-active environmental management* (Arago'n-Correa and Rubio, 2007; Berry and Rondinelli, 1998; Buysse and Verbeke, 2003) and to *environmental marketing* (Fraj-Andre's et al., 2009). Second, this stream has sought to analyse CSR from the perspective of management and transparency issues. For instance, Venturelli et al. (2017) have provided evidence from the assessment of corporate sustainability of a firm, thus underlying the transparency in disclosing social, environmental, and economic information. They emphasized that the position of a company in relation to its competitors allows a better compliance to norms and improvements, hence providing complete information to external stakeholders. Moreover, Agudelo et al (2020) and Lahinen and Myllyviita (2015) have emphasized that energy companies consider CSR reporting as a strategic tool to maintain the company's reputational status within a highly competitive market environment. In line with these results, also Mobus (2012) have provided evidence that CSR is considered a strategic reporting tool to allow companies to report and disclose the related information where key elements, such as social, economic, environmental and governance aspects are seen as facilitators in presenting a mixture of qualitative and quantitative information to stakeholders, facilitating transparency and accountability.

Transparency, information access and information disclosure are considered the core values within the management of public utility companies (Piotrowski, 2010). However, research in the field of disclosure of public transparency was not able to generate adequate tools to measure, assess and compare transparency practices between companies to investigate the determinants of success of transparency initiatives (da Cruz et al., 2016). A range of scholars have assessed the role of transparency in improving accountability and good governance of public companies by developing a transparency index, able to determine the dimensions and transparency indicators because public utility companies are responsible for providing essential services to the community (da Cruz and Marques 2014).

The main result of the da Cruz et al., (2016) regard the integrity and the good performance needs from public local companies. Moreover, they pointed out that sustainability of transparency practices can be secured by engaging a range of stakeholders from various interest groups, which gain benefits from a clear, complete, and useful information disclosure.

In line with this context, prior research has underlined several combinations of transparency of public value with several dimensions of information (Douglas and Meijer, 2016). In their research, authors have distinguished between different types of information public organizations are sharing and the quantity of the shared information. To be able to investigate these aspects, authors have identified three types of information in interacting with a range of actors in the complex network (Koppenjan and Klinj, 2004): 1) *operational capacity dimension* - looking at administrative, financial, and technological capabilities of the organization; 2) *authorizing environment* - looking at the democratic support and accountability of the organization; 3) *value proposition* - looking at the intended social outcomes. In order to assess the presented information, Grimmelikhuijsen (2012), Michener and Bersch (2013) and Douglas and Meijer, (2016) have suggested to estimate and measure the quantity of information adopting three different criteria: 1) *Completeness of information* – transparency here refers to basic, brief information with no disclosure or few details from both qualitative and quantitative perspective; 2) *Coloring of information* – organizations might be able to disclosure information in a fully neutral and complete way, even if, often organization tend to present the information “their way” in a certain “frame”, being impartial and limited; and 3) *Usability of information* – the disclosed information must be available in an approachable format or must be presented in an understandable and readable format for different interested stakeholders. In their analysis, authors have identified that those public utilities that have disclosed information actively, were effectively creating value for all internal and external stakeholders. Such results prove the crucial importance of transparency disclosure and the mechanisms adopted by companies in creating and

measuring public value. Transparency is not only seen as a tool for external stakeholders to monitor and control the internal working (Grimmelikhuijsen and Meijer, 2014 and Meijer, 2012) but is seen also as a tool used by organization to actively engage with stakeholders to collaborate and create public value and public accountability for the communities and the environment. Moreover, authors have pointed out the necessity to communicate notions, ideas, communicative skills, and ability of public managers to possible embody transparency towards stakeholders (Roberts, 2006)

The current section has undelined important aspects from the existing literature on transparency, accountability, and measurement of transparency disclosure in public utility companies. However, as pointed out by Roberts (2006), transparency reporting is seen as a key tool to engage with sustainable disclosure and increased engagement with stakeholders to achieve greater integrity and public awareness. Mobus (2012) emphasized that economic, environmental and governance aspects are seen as facilitators in presenting a mixture of qualitative and quantitative information to stakeholders. We aim to contribute to the actual debate, by enhancing the role of transparency of public utility companies in achieving a complete disclosure on sustainability aspects. We aim to underpin 1) to what extent energy public utilities are complying with the GRI standards disclosure and 2) what level of compliance are companies providing transparent disclosures in terms of the GRI's economic, environmental, and social indicators. The goal of this research is to provide evidence on the compliance level that companies display regarding the intensification of transparency disclosure and the ability to enhance public awareness through an increase in stakeholder's engagement.

3. Theoretical lens

The present research aims to explore the ongoing relationship between transparency in reporting practices and the increase of accountability among public utilities companies. To underpin this

interrelation between transparency and accountability, scholars have tried to develop holistic disclosure frameworks based on certain theories. In this vein, scholars struggle to identify the information that must be included into a bigger view of the report, because the effectiveness of information for citizens should be accompanied with substantial contents according to the principles of accountability. In analysing transparency and disclosure in the public companies, the literature has found evidence from *stakeholder theory* (Freeman, 1984, 1999; Clarkson, 2016; Donaldson and Preston, 1995), *legitimacy theory* (Chan et al., 2014; Dowling and Pfeffer, 1975; Gray et al., 1995) and *agency theory* (Jensen and Meckling, 1976).

In the present research, we rely upon *stakeholder theory* mentioned by Greiling and Grüb (2014, p. 211), stakeholder theory “...emerged as a backbone of sustainability reporting. A basic assumption in strategic stakeholder theory (Freeman, 1984) is that stakeholder management will lead to a competitive advantage allowing a higher level of value creation (Wall and Greiling, 2011).”

We underpin the stakeholder theory in analysing the relationship between organizations and stakeholders. Accordingly, the literature has outlined two groups of stakeholders: primary and secondary (Clarkson, 2016). The former group comprises the organization’s owners, employees, and customers; the latter group relates to government, regulatory authorities, competitors, and media. The aim of disclosing these two groups of stakeholders is related to the different needs and expectations (Fernandez-Feijoo et al., 2014). The main goal of stakeholder theory is to consider and offset the different interests, needs and expectations of these stakeholders (Fernandez-Feijoo et al., 2014; Freeman, 1984), with a particular focus on relations that can affect or be affected by the fulfilment of specific goals (Freeman, 1999). Considering transparency in public companies as a clear and underlying element in enhancing public accountability, it aims at connecting institutions in a complex system of relationships with primary and secondary stakeholders (Donaldson and Preston, 1995).

According to stakeholder theory, the main purpose of organisations is to stabilize the conflicting constraints of different

stakeholder groups (Freeman, 1984). As mentioned by Donaldson and Preston (1995), stakeholder theory also advocates the principle of “responsibility”, which suggests that, by providing complete disclosure towards their stakeholders, organizations comply with their duties and obligations towards the broader society. Because public organisations cannot generally survive without the ongoing support of their stakeholders (Clarkson, 2016), it is critical that they act with transparency as part of the larger project of public accountability. In this vein, we adopt stakeholder theory to demonstrate how public companies can balance transparency and accountability in their sustainability disclosures (Fernandez-Feijoo et al., 2014). To this end, we aim to integrate and disclose different aspects of the GRI disclosure indicators, as they “...represent a good attempt to overview developments internationally ...” (Ball and Grubnic, 2007, p. 258) and “...provide the basis of worldwide standardized, comparable, reporting on the sustainability of (particular business) organizations” (Ball et al., 2006, p. 268) underlining a suitable global standard for reporting organisations’ sustainability efforts.

4. Research design

The study is based on an analysis of non-financial and sustainability reports from European public utilities companies that provide energy services. The choice to employ these specific public utilities came from their wide impact on economic, environmental, and social dimensions, as well as their stakeholders’ engagement with sustainable development (GRI, 2020). This research involves the explanatory paradigm in understanding the non-financial reports and the interpretation of sustainability indicators, namely economic, environmental, and social from the analysis. Data collected is based on the non-financial reports of European energy utilities. De facto, these documents reveal the verbal communication of any company, which contributes to the disclosure of transparency reporting data, providing clear and full evidence on sustainability indicators. The

collected non-financial reports provide evidence of companies' alignment with sustainability indicators. We used the "GRI Sustainability Disclosure database" to identify all the energy utilities. As mentioned by Morhardt et al. (2002), the GRI Sustainability Reporting Guidelines 2000 "*are the most detailed, comprehensive, and prescriptive guidelines to-date*" and consequently, adhering to these guidelines meticulously would signal a company's commitment to sustainability.

As of September 2021, the database contained information related to 15,592 organizations, 63,852 reports and 38,484 GRI reports. The database collects all types of sustainability reports, whether GRI-based or otherwise, as well as all relevant information related to the reporting organizations. To develop our sample, we filtered the reports according to certain economic, environmental, and social indicators. The first filter is the sector, namely "*Energy utilities*", which has a wide impact on economic, environmental, and social dimensions. According to GRI (2019, 2020), energy utilities play a key role in climate change and sustainable development. This filter narrowed the search to 2,450 reports representing 454 organizations. The second filter—choosing "*Europe*" as the region—focused the analysis on 53 countries, leaving 864 reports across 139 organizations. The third filter, the report type, choosing the "*GRI-G4*" report type, we were able to collect reports which describe a sector's most significant impact from a sustainability perspective. This filter narrowed the list to 154 reports representing 63 organizations. The last filter selected was the year of the sustainability reports—in this case, the *year 2017*. With this last filter, we arrived at a final sample of 41 Non-financial and Sustainability reports in English, Spanish, Italian, Portuguese, Finnish and Dutch, drawn up according to the Sustainability Reporting Guidelines issued by the Global Reporting Initiative (GRI). The sample collected was as of 31 December 2017, all reports in the GRI online database. The main reason for the year choice derives from the implementation of the Directive 2014/95/EU, which emphasize that companies are required to disclose information on the way they operate and manage social and environmental challenges. This helps

investors, civil society organisations, consumers, policy makers and other stakeholders to evaluate the non-financial performance of companies and encourage these companies to develop a responsible approach to business. Moreover, we chose 2017 as the year because that it is when the European Commission published non-binding guidelines for reporting non-financial information, primarily to help companies meet the requirements of the Directive. The aim of the Directive is to increase companies' transparency and performance on environmental and social aspects - and thereby contribute effectively to long-term economic and employment growth and social and sustainable development. Companies still retain significant flexibility to disclose relevant economic social and environmental information in the way that they consider most useful, thus providing a complete and single report or prepare a separate report for non-financial disclosure information.

Our study focuses on the disclosure of economic, environmental, and social information in sustainability reports. The sample encompasses 41 reports with several different titles. The table 1 details the different types of reports that were analysed.

Type of report	Number of reports	Maximum length	Minimum length
Accountability report	0	0	0
Activity report	1	104	104
Annual report	7	508	50
Citizenship report	0	0	0
Corporate social responsibility report	7	254	74
Environmental, health and safety report	0	0	0

Environmental report	0	0	0
Integrated report	6	166	62
GRI report	1	52	52
Report to community	0	0	0
Report to stakeholders	0	0	0
Responsibility report	0	0	0
Responsibility care	0	0	0
Sustainability report	19	296	50
<i>Summary</i>	<i>41</i>	<i>508</i>	<i>50</i>

Table 1: Characteristics of the sample report

The table 2 presents the sample in terms of its major data and main characteristics. All companies are in Europe, the majority are from Italy and Germany (16,67% each), are medium or large organizations (59,52%), are quoted on the stock exchange (54,77%) and provide external assurance¹ (64,29%).

¹ External assurance is an essential step for those organisations that want to increase confidence in the quality of their sustainability content, data and processes portrayed in a report, as it provides an independent, third-party view of the thoroughness and relevance of the sustainability systems and approach.

organizations (59,52%), are quoted on the stock exchange (54,77%) and provide external assurance¹ (64,29%).

Considering that public utilities respond to a wide swath of internal and external stakeholders (e.g., employees, supply chain partners, regulatory bodies, consumers, and the public), their disclosure requirements are higher than in other sectors. Thus, they are challenged to address the economic, environmental, and social dimensions of their operations.

Business category	Nr.	% Over total
Energy utilities	41	100 %
Country	Nr	% Over total
<i>Andorra</i>	1	2,4%
<i>Austria</i>	1	2,4%
<i>Belgium</i>	2	4,76%
<i>Finland</i>	2	4,76%
<i>Germany</i>	6	14,63%
<i>Greece</i>	2	4,76%
<i>Ireland</i>	1	2,4%
<i>Italy</i>	7	16,67%
<i>Latvia</i>	1	2,4%
<i>Netherlands</i>	2	4,76%
<i>Poland</i>	1	2,4%
<i>Portugal</i>	2	4,76%
<i>Romania</i>	1	2,4%
<i>Russian Federation</i>	1	2,4%
<i>Spain</i>	5	11,9%
<i>Sweden</i>	1	2,4%
<i>Switzerland</i>	4	9,52%
<i>United Kingdom of Great Britain and Northern Ireland</i>	1	2,4
<i>Total</i>	<i>41</i>	<i>100%</i>
Dimension	Nr	% Over total
Large	34	82,92%
Small and Medium Enterprise	3	7,32%

Multinational Enterprise	4	9,76%
<i>Total</i>	<i>41</i>	<i>100%</i>
Listed on stock exchange	Nr	% Over total
Yes	22	53,66%
No	19	46,34%
<i>Total</i>	<i>41</i>	<i>100%</i>
Type of Company	Nr	% Over total
Private company	25	60,97%
Public Institution	2	4,88%
State-Owned Company	11	26,83%
Subsidiary	3	7,32%
<i>Total</i>	<i>41</i>	<i>100%</i>

Table 2: Characteristics of the sample

5. Empirical results

The results of our research are based on a final sample of 41 Non-financial and Sustainability reports in English, Spanish, Italian, Portuguese, Finish and Dutch, drawn up according to the Sustainability Reporting Guidelines issued by the Global Reporting Initiative (GRI). The sample collected was as of 31 December 2017, all reports in the GRI online database. The results are presented in three different sections that respectively link the energy utilities' non-financial and sustainability reports with the GRI's economic, environmental, and social indicators. The first section presents the results of the sustainability indicators disclosure in line with economic indicators from the non-financial and sustainability reports for energy utilities. The second section displays the results of sustainability indicators disclosure in line with environmental indicators from the non-financial and sustainability reports and the third section represents the sustainability indicators in line with the social indicators. Taken together, the disclosures reveal the organisations' compliance with these performance markers.

5.1 Sustainability Indicators disclosure – GRI Economic indicators

In this section, we focus on the transparency of information that energy utilities provide to their stakeholders in relation to the economic category and its related aspects: market presence, indirect economic impacts, and procurement practices.

Considering the overall GRI disclosures concerning the economic aspects, the figure 1 illustrates the major highlights. In this category, about 62% of the reporting relates to the economic performance sub-category. The other major aspect linked to economic performance is associated with procurement practices. About 56% of the companies reported on the indicator that encompasses interorganizational employment relationships, wealth creation, increase in income, and development of social conditions. Furthermore, around 45% of the sample companies provide disclosure related to indirect economic impacts, mainly 46% out of 44% report on development and impact of infrastructure investments and services supported. Meanwhile, market presence is the least-represented economic category in the disclosure reporting, due to low interest towards disclosing information regarding the ratios of standard level wages by gender compared to the local minimum wage, or the proportion of senior managers hired from the local community. This aspect is less represented by the overall sample, on average only 22% of the sampled organizations reported on this indicator.

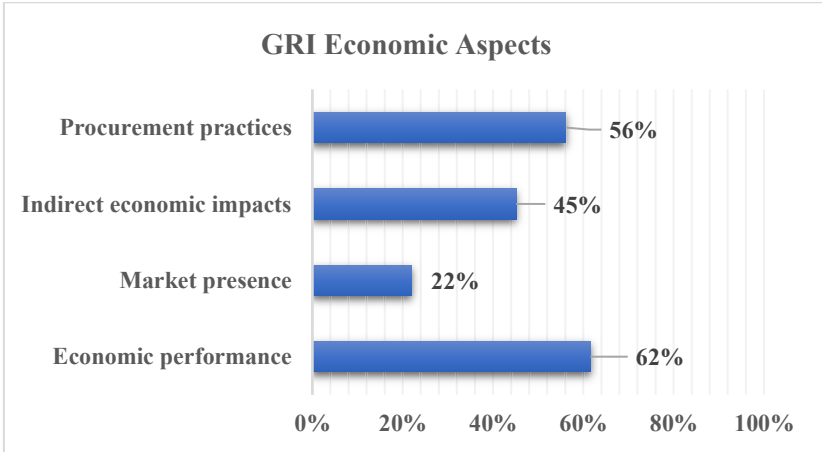


Figure 1: GRI- Economic Aspects overall disclosure

The figure 2 provides the complete information about the transparency disclosure of every economic indicator of the organization.

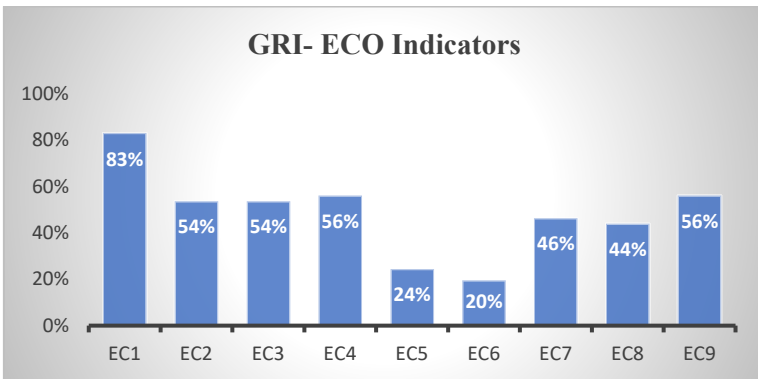


Figure 2: GRI Economic indicators

We provide this information, because we mainly focus our attention, within the economic category, on the economic indicator EC1- GRI indicator, which covers the direct economic value generated and distributed. This indicates that 83% of all organizations from the sample disclose information regarding their Economic Performance. This result emphasizes the increase of company's engagement towards stakeholders by providing a transparent information related to the direct economic value generated and distributed.

5.2 Sustainability Indicators disclosure – GRI Environmental indicators

The second section covers the transparency reporting of environmental indicators, providing evidence from every GRI environmental disclosure indicator, which are detailed in the figure 3. We mainly focus our attention on the disclosure of critical indicators: energy, compliance, and emissions. The main individual indicators in this regard are EN3 (which displays the direct energy consumption within the organization), EN15 (which presents the direct greenhouse gas (GHG) emissions), EN16 (which displays the energy indirect greenhouse gas (GHG) emissions), EN19 (which displays the reduction of greenhouse gas (GHG) emissions), and EN29 (which discloses the monetary value of significant fines and the total number of non-monetary sanctions for non-compliance with environmental laws and regulations). On these fronts, we found that the following percentage of organisations provided full disclosure on these topics: 80% for EN3; 90% for EN15; 76% for EN16, and 68% for EN19.

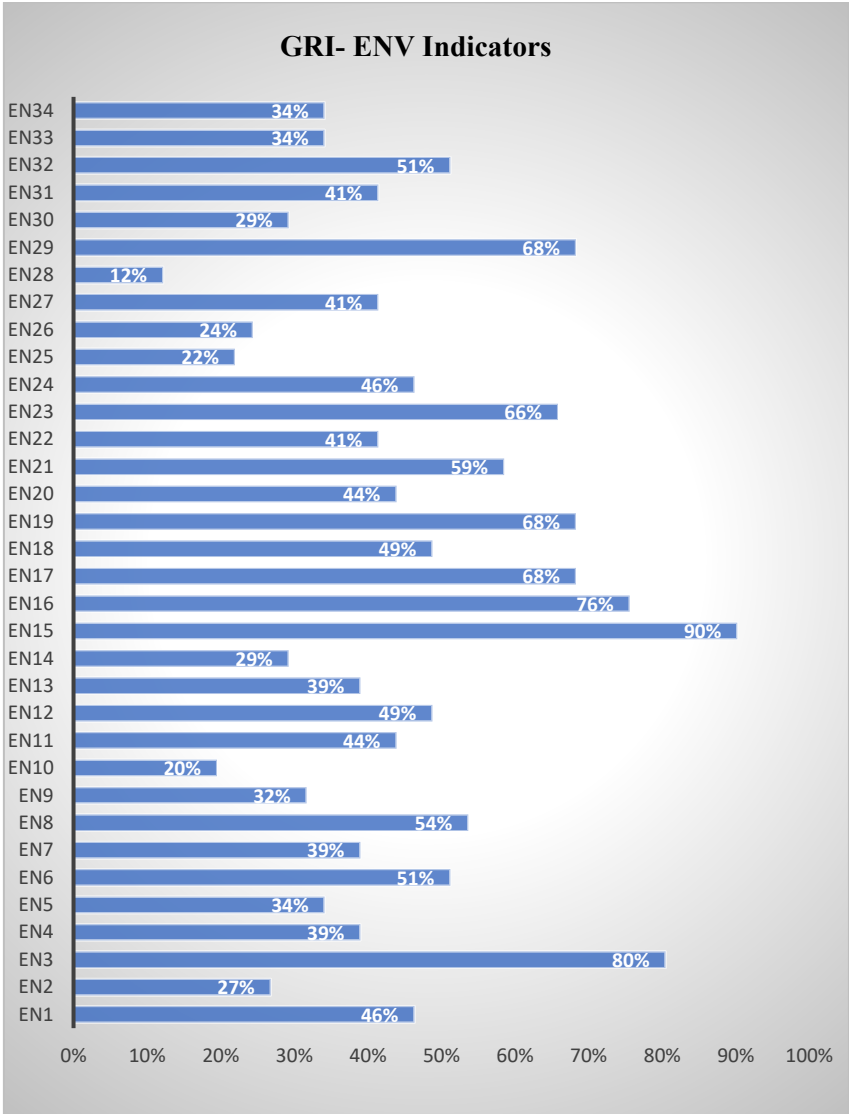


Figure 3: GRI Environmental indicators

Moreover, the overall results presented in the figure 4, shows that 67% of these companies were transparent in disclosing the monetary value of significant fines and the total number of non-monetary sanctions for non-compliance with laws and regulations. Overall, 49% of the sampled companies transparently disclosed energy information, 65% provided emission information, and 68% detailed their compliance with GRI disclosure standards guidelines.

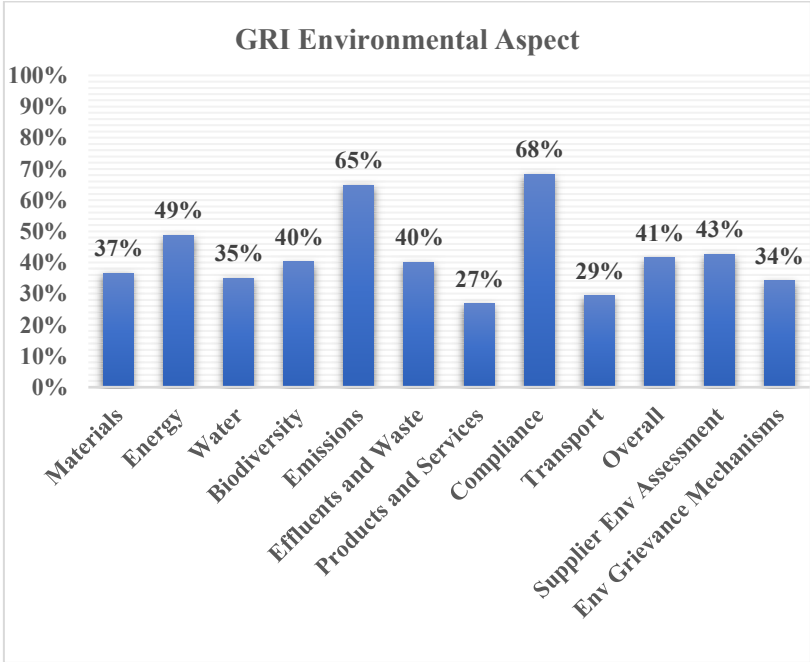


Figure 4: GRI- Environmental Aspects overall disclosure

5.3 Sustainability Indicators disclosure – GRI Social indicators

This third section presents the results of the social disclosure analysis. In this category, the figure 5 provides the complete results for the social category, and its individual sub-categories: labour practices and decent work; human rights; society and product responsibility.

In terms of the individual social indicators, the results presented by LA1, which represents the total number and rate of new employee hires and employee turnover by age group, gender, and region, indicate that 78% of the companies made disclosures related to employee turnover by group, age, and region. Regarding LA6 (indicator related to the type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender), 85% of the sampled companies provided transparency disclosures on occupational health and safety—particularly for types of injuries, lost days due to diseases —by gender and by region. Lastly, the results for LA9 (representing the average hours of training per year per employee by gender and by employee category) indicate that 73% of companies disclosed the total average hours of training per year per employee per gender.

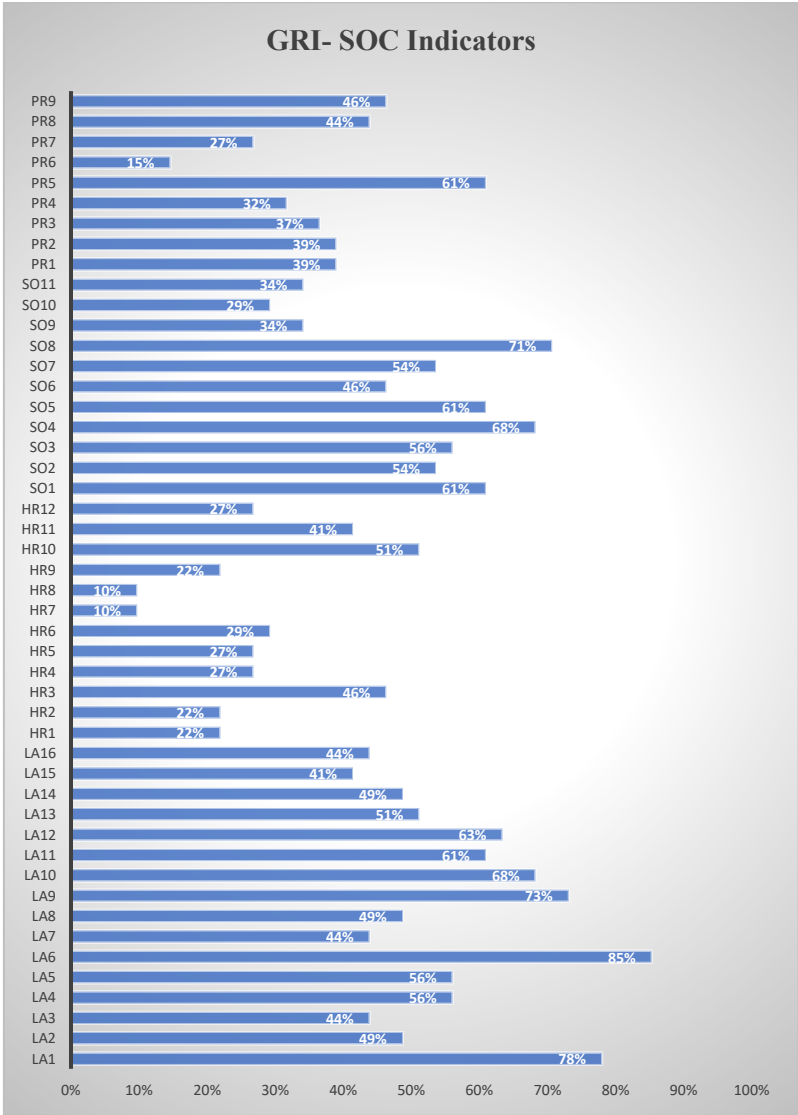


Figure 5: GRI Social indicators

Further consideration is related to the social category, which shows that 52% of the analysed companies provided disclosures related to the social category. Of the sampled companies, 71% provided transparency disclosures on SO8 (Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations) and 68% provided them on SO4 (Communication and training on anti-corruption policies and procedure). The former relates to firms' compliance with laws and regulations for non-compliance, while the latter deals with anti-corruption themes (e.g., communication and training on anti-corruption policies and procedures).

Figure 6 presents the overall GRI indicators for each sub-category of the social category. The overall results provide a disclosure that 57% of the said companies from the sample report for the transparency related to labour practices and decent work, in particular attention is given to injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender and secondly to number and rate of new employee hires and employee turnover by age group, gender, and region. The second overall result relates to the society sub-category. The results here present almost 52% of companies report firstly on local communities, in particular data refer to Percentage of operations with implemented local community engagement, impact assessments, and development programs; secondly on anti-corruption aspect related to communication and training on anti-corruption policies and procedure; and thirdly on compliance sub-category, in particular information reveals data for monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations. Furthermore, the sample companies provide evidence for product responsibility for 38%, in particular for aspects related to surveys measuring customer satisfaction. And the last overall result relates to the human rights sub-category for 28% focusing on the non-discrimination aspects and human right assessment.

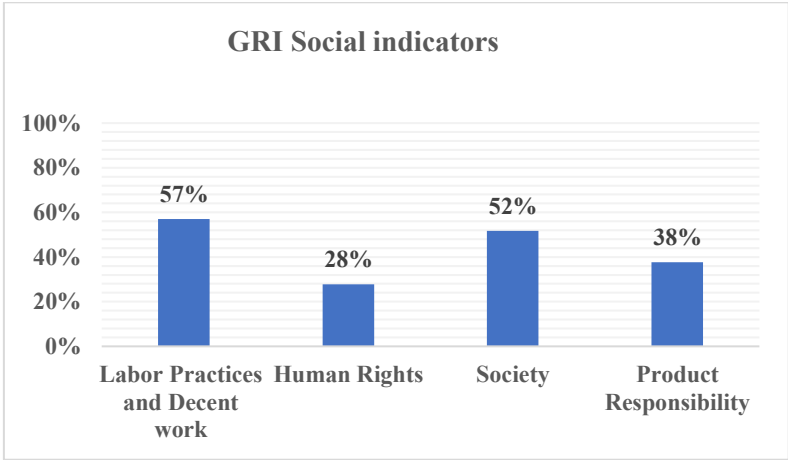


Figure 6: GRI- Social Aspects overall disclosure

The findings of this research provide interesting insights into the connection between the disclosure of economic, environmental, and social categories reported by energy utilities companies. They reveal the importance of specific aspects for which provide full transparency and full disclosure. The company’s sustainability or non-financial disclosure report presents transparent information also in compliance with the stakeholder needs and reflect their economic, environmental, and social impacts, thus such results influence the assessment and the decision of stakeholders. The firm’s level of transparency and disclosure of economic, environmental, and social information shed light on the increase in accountability provided to stakeholders through reporting transparency which enhances public trust and public engagement.

6. Discussion

We set out this investigation to show the importance of transparency of sustainable disclosure in public energy utility companies. Our final sample is based on 41 Non-financial and

Sustainability reports in English, Spanish, Italian, Portuguese, Finnish and Dutch, drawn up according to the Sustainability Reporting Guidelines issued by the Global Reporting Initiative (GRI). Our empirical study focused on the disclosure of economic, environmental, and social information from energy public utilities' sustainability and non-financial reporting. Public utilities are expected to provide their stakeholders with the clearest and most complete information about their activities. Thus, this investigation underlines the importance of transparency in public energy utilities' sustainability disclosures because energy utilities companies are driven by external pressure and standards to be responsible, sustainable, thus these companies must adopt a proactive approach in reporting and disclosing practices.

Analysing the classification of companies presented in the empirical part of the paper, we mainly emphasize the differences based on the type of the company (private company, public institution, state-owned company, subsidiary), size of the company (large, SME, MNE) and quotation on the stock exchange (listed versus non-listed). Firstly, we can highlight, that companies listed on the stock exchange, provide accurate and complete information in all disclosure categories, even if the year under analysis is the first year to comply with such guidelines. We can highlight that listed companies are twice more transparent in issuing information related to economic indicators (48% of listed companies provide full disclosure on economic performance indicators with respect to 21% of non-listed companies). Considering the environmental indicators, 42% and 38% respectively of listed companies are disclosing more information regarding the emissions and compliance to regulation, compared to 23% and 29% respectively for non-listed companies. Considering the last group of indicators, the social category, it presents a disclosure of about 37% compared to 20% on labour practices and decent work presented by respectively listed and non-listed companies. This data emphasizes, how listed companies are increasing their compliance to new regulations on sustainability disclosure and how non-listed companies provide impartial voluntary disclosure of the related issues, however, are engaging

with such regulations to increase their engagement with stakeholders and shareholders.

Secondly, regarding the size of the company, we distinguish between large, SME (small and medium enterprises) and MNE (multinational companies). The large companies, independently of the type of company and quotation, provide clear and full disclosure on all indicators, being the most transparent about the impact the company has on the environment and society. Considering the economic indicators, 53% of large companies provide a complete disclosure on economic performance aspect, compared to SME and MNE, for 4% and 5% respectively. Considering the environmental indicators, large companies are disclosing their information for about 56% on issues related to overall compliance with regulations and 55% on indicators related to emissions, compared to 6% -7% of MNE and 4% -5% of SME respectively. From the social disclosure perspective, 47% of large companies provide a full disclosure in terms of labour practices and decent work with respect to SME and MNE, with 4% and 6% respectively. The major disclosure information presented by large companies enhance the key relevant GRI indicators which describes the most significant sustainability impacts, while engaging with specific aspects, such as right of indigenous peoples, anti-corruption, climate adaptation, resilience while also ensuring comprehensive disclosure on greenhouse gas emissions, both direct and indirect emissions.

Third perspective considers the last classification, the type of company. In this lens, we distinguish between 4 types of companies, private companies, public institutions, state owned companies and subsidiaries. In all categories, private companies, independently the quotation and size, are the most transparent to what regards economic indicators (41% versus 13%, 5% and 2% respectively), environmental indicators (compliance to regulations for 44% versus 17%, 5% and 2% respectively; and emissions for 43% versus 15%, 7% and 1% respectively) and social disclosure indicators which provides data from 40% of private companies compared to 12%, 3% and 2% of other companies on aspects such as labour practices and decent work.

Such results, provide clear evidence, that since 2017, listed companies, are asked by the law to report not only on economic aspects, but also on social and environmental aspects. Large companies and private companies can provide such disclosure as well, due to knowledge sharing and adoption of best practices from the external environment.

7. Concluding remarks, limitations and future research

Along with a focus on reports from 2017, which engages with the establishment of the GRI reporting guidelines, our work helps to explain the impact that organizations have on the community and environment in which they operate. Since the adoption of Directive 2014/95/EU, listed companies are required to disclose economic, social, and environmental information in their annual reports. This disclosure information helps all stakeholders evaluate the company's financial and non-financial performance. On this basis, stakeholders might be able to persuade companies to engage with a responsible business approach. That said, the Directive does not mandate that non-listed companies report sustainability issues; however, to adapt to national and international legislation and satisfy the demands from the capital markets (Broberg, et al., 2010), these companies from 2017 began to report on economic, environmental and social aspects, after the introduction of specific regulations, such as IFRS² or GRI guidelines. The degree of transparency of the disclosed information is related to the company's expertise and engagement towards sustainable development and adoption of a sustainability strategy. Moreover, considering the literature on the quantity of information disclosed, companies respond to the need to disclose the operational

² IFRS - The International Financial Reporting Standards, are accounting standards issued by the IFRS Foundation and the International Accounting Standards Board (IASB). They constitute a standardized way of describing the company's financial performance and position so that company financial statements are understandable and comparable across international boundaries. They are particularly relevant for companies with shares or securities listed on a public stock exchange.

capacity of organizations, namely the information related to the administrative, financial and technological capabilities of the organizations, the democratic support coming from governmental support and the social outcomes of the companies' operation and its impact on the local communities. Considering the quality of information, we can underscore the transparency and the completeness of information provided by energy utility companies from our sample, in particular the rise of disclosure of indicators; the impartiality and the neutrality of information disclosed; and the completeness and the understandability of the information present in the report able to reach different stakeholders. That said, the development of the GRI guidelines has helped more companies deliver and achieve recognition for their transparency disclosures.

Our study suggests that public utilities in the EU have dedicated growing attention to the transparency of disclosed information through GRI reporting. These efforts are important to promote more completeness in sustainability reporting and public accountability, as well as creating more transparent and sustainable capital markets. With such information, stakeholders can monitor an organization's internal and external impact on society and the environment (Meijer, 2012). Our results emphasize the situation of a limited sample of organizations operating in a particular sector at a specific moment in time, considering the distinction based on size of the company, type of the company and quotation on the stock market. Larger or broader samples may confirm or diverge from our results. It would also be valuable for research to explore the difference in disclosure practices between listed and non-listed public utilities, or to focus on pointing out the change of sustainability disclosure themes during a different time setting.

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Printed by
Gi&Gi srl - Triuggio (MB)
March 2022



9788834351963