

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of Sonatrach Raffineria Italiana 2019-2023

Houda Djaballah ^{1*}, Malika Kerkar²

¹ SDEURSI Laboratory, University of Mohamed Ben Ahmed Oran2, (Algeria)
h.djaballahoran2@gmail.com

² University of Lounisi Ali - Blida2, (Algeria). malikaafroune@hotmail.com

Received: 19/02/2026

Accepted: 17/05/2026

Published: 01/06/2026

Abstract:

The activities of companies operating in sectors with substantial environmental and social impacts generate multiple repercussions for society and the environment. Consequently, these companies face growing pressure from governments, investors, and civil society organizations to disclose their environmental and social performance.

This study aims to examine the role of social accounting in assessing sustainable social performance. A case study of Sonatrach Raffineria Italiana (2019–2023) revealed that social accounting outputs, including performance indicators and transparent reporting, help identify strengths and weaknesses, thereby supporting the improvement of social practices and promoting sustainable corporate behavior.

Keywords: Social responsibility; Social Accounting; sustainable Social performance; Social Performance Indicators.

Jel Classification Codes: M14, J16, J28.

1. INTRODUCTION

The last decade of the twentieth century, accounting experienced a significant transformation, shifting its focus from traditional financial accounting to environmental and social accounting (Kumar and Kumar, 2025, p112), with pioneering contributions by Gray and Bebbington , This shift was formalized by John Elkington (1994) through the concept of the Triple Bottom Line, which broadens the evaluation of organizational

*Corresponding author

performance to include economic, social, and environmental dimensions (Lamberton, 2005, p.7; Elkington, 2018). This evolution culminated in the early twenty-first century with the international recognition of sustainability accounting at the 2002 World Summit on Sustainable Development in Johannesburg, emphasizing the critical role of companies in fostering a sustainable future for both society and the environment (Lamberton, 2005, p.7). This transformation arose in response to the increasing demand for non-financial information regarding the environmental and social impacts of corporate activities (Mook , 2020, p. 21), as well as the limitations of traditional accounting in capturing and measuring such effects, particularly concerning social inequality and environmental degradation (Jones, 2010, p. 123; Kumar and Kumar, 2025, pp.112-113).

Over the past two decades, the world has witnessed numerous global summits (UNFCCC, 2015; UNFCCC, 2021; UNFCCC, 2022) addressing environmental and social issues. The United Nations Sustainable Development Goals (SDGs) and their associated agenda have become increasingly clear (Mook , 2020, p. 21), and companies are now expected to go beyond merely maximizing profits and generating short-term value for investors. Their role has expanded to include the balancing economic, social, and environmental objectives while creating sustainable long-term value (Rehan et al., 2025, p1; Kumar and Kumar, 2025, p.113).

The human dimension of sustainability is considered the core of social sustainability, which aims to enhance the well-being of individuals and communities through the development of competencies and societal values (Denu et al., 2023, p.1). Despite the broad consensus among researchers on the importance of integrating the social dimension into corporate sustainable development strategies, significant challenges persist in measuring companies' social performance accurately and objectively. In addition, it faces further limitations arising from variations in measurement bases and the multiplicity of approaches adopted, as well as the limited acceptance of social indicators and the varying degree of user engagement with them (Denu et al., 2023, p.1). The need for measurement arises from the necessity to provide quantitative indicators, enabling the company's

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

actual results to be compared with the planned objectives (Renaldo et al., 2022, p. 10).

Due to the impact of their activities on the environment and society, certain companies-particularly those in the energy sector- are obligated to disclose the effects of their operations. It has also become essential for them to systematically address environmental, social, and human rights issues (Karaman et al., 2021, p1). According to several studies, economic and environmental performance indicators are generally well-established and do not pose difficulties due to their widespread use. The main challenge lies in the development, implementation, and application of social performance indicators, which remain poorly defined and ambiguous, making it difficult to accurately measure companies' social impact and assess their sustainability (Afshari et al., 2022, p 264). This issue is what motivated this study to focus on social performance indicators, with the aim of analyzing and assessing the impact of corporate activities on the community and providing a clear framework for their measurement. Within this framework, and in the context of the case study of SRI, this study aims to analyze the role of social accounting in assessing sustainable social performance within the company, with a particular focus on sustainable social performance indicators as tools to measure the impact of its activities on the community.

Hence, the research problem can be formulated as follows:

What is the role of social accounting in assessing sustainable social performance in Sonatrach Raffineria Italiana, through clear indicators that measure the impact of its activities on the community?

Based on this research problem, the study addresses the following **sub-questions**:

1. What is the concept of social accounting and sustainable social performance indicators?
2. Which sustainable social performance indicators are adopted by Sonatrach Raffineria in its reports?
3. To what extent do these indicators contribute to assessing sustainable social performance within the company?

Accordingly, the **sub-hypotheses** are as follows:

H1: Social accounting is an information system that provides a conceptual and normative framework, enabling the assessment of social performance.

H2: The sustainable social performance indicators disclosed in SRI's reports provide measurable information on the social impact of the company's activities.

H3: The use of these indicators effectively helps identify strengths and weaknesses in social performance, compare them against standards, and enables sustainable improvement of social performance.

Methodology and tools

To understand the role of social accounting in assessing sustainable social performance, this study adopts a case study approach, focusing on SRI as a representative case, given that it operates in a sector with significant social impact and that its annual sustainability reports are publicly available and reliable. The study relies on data extracted from the company's annual sustainability reports for the period 2019–2023, which were used to analyze the evolution of the company's sustainable social performance indicators.

The **research tools** employed include:

1. Descriptive content analysis of the official reports to identify social policies and the dimensions of sustainable social performance adopted by the company.
2. Graphical analysis to illustrate the development of sustainable social performance indicators over the study period.

Structure of the Study

This study is structured around three main axes: first, a literature review and the identification of the research gap, highlighting what distinguishes this study from others; second, the theoretical framework of the variables under investigation, including the concepts of social accounting, sustainable social performance and its indicators, as well as the frameworks for its disclosure; and finally, a case study of Sonatrach Raffineria Italiana with an analysis of the results.

2. Literature review

Many studies have examined social accounting and sustainable social performance, either by concentrating on one of them individually or by investigating both together within the same study. Some studies focus on improving measurement approaches, frameworks, and methodologies for assessing social and sustainable performance. For instance Kühnen and Hahn (2018), in their review of 141 articles, found that social metrics are integrated into sustainable performance assessment; however, the current research remains methodologically fragmented. Malik et al. (2021) proposed a research approach that integrates company financial records with publicly accessible national input-output datasets to evaluate the

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

environmental and social consequences of supply chains (Scope 3). They highlighted that this method can assist organizations in improving sustainability accounting practices, ensuring reliable and sufficient information, and facilitating the preparation of external sustainability disclosures. Renaldo et al. (2022), in a published study, proposed a conceptual framework emphasizing the role of social accounting in measuring companies' social and environmental performance and improving the measurement system to achieve sustainable value. Chen and Li (2024) focused on developing a Data Envelopment Analysis (DEA)-based method to evaluate corporate social performance by using market-level data to compensate for the lack of firm-specific information.

Another group of studies has examined how sustainable or social accounting influences performance outcomes. Suhendar et al. (2023) found that sustainable accounting has a positive influence on environmental responsibility and reporting, whereas its effect on economic and social aspects was not significant, based on a sample of 142 accounting professionals and lecturers from Riau Province. Dauerer (2025) conducted a literature review on corporate performance measurement, analyzing 61 peer-reviewed articles, and found a significant increase in research in this area, with greater focus on the environmental dimension than on the social dimension.

Some studies have focused on the relationship between corporate social performance (CSP) and financial performance or market-related behavior, Chen et al. (2015) examined the impact of CSP on financial performance using 75 GRI reports. Their findings indicate that social performance indicators, such as labor practices, human rights, and product responsibility, are positively correlated with financial performance, emphasizing the value of corporate social responsibility for firms' profitability. Zhang et al. (2015) found that companies monitored by a greater number of analysts tend to participate more in charitable initiatives, particularly non-state-owned firms, supporting the reputation capital perspective. In general, corporate social performance influences both financial results and stakeholder-oriented actions.

Other research has investigated the factors shaping corporate social performance. For example, Denu et al. (2023) conducted a survey of 110 companies in Ghana and identified seven key determinants of social

sustainability performance: community engagement, equity, poverty alleviation, human rights, ethical practices, regulatory compliance, and employee-related factors. These findings provide practical guidance for managers to assess and improve their organizations' social sustainability performance. Rehan et al. (2025) found that corporate social responsibility (CSR) enhances Sustainable Social Performance in Pakistani Islamic banks, with Green Intellectual Capital (GIC) acting as a significant mediator, highlighting the importance of integrating GIC into CSR strategies.

Additionally, some studies have emphasized sustainable social performance indicators. In this regard, Afshari et al. (2022) focused on the energy sector, analyzing 420 social indicators with respect to their quantity, measurement approaches, and levels of implementation, providing insights into their practical application in promoting social sustainability.

Despite the growing literature, research on corporate social performance in the oil and gas sector remains limited (Afshari et al., 2022, p. 264). Most studies have either focused on theoretical frameworks or examined the relationship between CSP and other factors, while empirical research on social performance in this industry is still scarce. Furthermore, the literature tends to emphasize the environmental dimension of sustainability over the social dimension, highlighting the need for more studies specifically addressing corporate social performance in the oil and gas sector.

In response to these gaps, the present study aims to highlight the role of sustainable social accounting in assessing sustainable social performance, with a focus on an Algerian company in the oil and gas sector, a sector that has traditionally prioritized the environmental dimension over the social one. Moreover, the study examines the social performance indicators used to evaluate the company's development over the study period, addressing the underrepresentation of the social dimension in sector-specific sustainability research.

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

3. Theoretical Framework

3.1. Measuring Sustainable Social Performance through Accounting

Social accounting emerged as a response to criticisms of financial accounting, which had focused primarily on the financial dimension and the interests of shareholders, while largely neglecting those of other stakeholders. As a result, financial accounting was incapable of achieving a balance between financial, social, and environmental aspects. When it first appeared in the early 1970s, it was referred to as either environmental accounting or social and environmental accounting, reflecting its focus on assessing organizations' impacts on society and the environment (Richmond et al., 2003, pp. 308-309). Historically, the concept of social accounting has undergone a series of developments that can be classified into four main stages (Mook, 2020, p. 21):

- 1- Corporate Social Responsibility emerged in the early 1970s as a response to stakeholder pressure on companies to disclose social and environmental information about their activities effects.
- 2- The second stage, starting in the early 1990s, was influenced by the Brundtland Report, which introduced the concept of sustainable development based on three dimensions: economic, social, and environmental (World Commission on Environment and Development, 1987). This prompted many researchers to develop frameworks and approaches for triple-bottom-line sustainability accounting, and organizations subsequently began publishing sustainability reports.
- 3- The third wave emerged from the theoretical and practical efforts of the previous stage, leading to the standardization and widespread adoption of sustainability reporting in numerous countries (Arif et al., 2021 , p.496).
- 4- The fourth stage, which we are witnessing today, connects social and environmental performance of companies to the globally recognized 2030 Sustainable Development Goals (SDGs) (Mook, 2020, p. 21).

In this context, the concept of social accounting has been defined in various ways and is frequently used interchangeably with related terms such as sustainability accounting, environmental accounting, and environmental

and social accounting (Jankalová and Jankal, 2024, p. 2; Renaldo et al., 2022, p. 10). Despite the extensive body of literature addressing social accounting, there is still no consensus on a unified definition or a single conceptual interpretation of the term (Gray, 2002, pp. 692- 694). In many studies, social accounting is used to refer solely to the environmental dimension, while in others it encompasses both environmental and social dimensions, or, in some cases, it refers only the social dimension.

Sustainable social performance can be defined as a company's ability to achieve its social objectives without compromising the interests of the society in which it operates, by adopting social values and the fulfillment of its social responsibilities in a way that ensures a balance between organizational goals and the requirements of sustainable societal development (Asha'ari et al., 2023, p.4). According to KPMG, companies are increasingly disclosing information on their environmental and social performance through sustainability reports, thereby providing non-financial information and enhancing transparency for stakeholders (Ibáñez-Forés, et al., 2023, p.157).

The emergence of social accounting from a social perspective arose as a response to the inability of traditional accounting to measure companies' social activities (Lazkano and Beraza, 2019, pp. 1-2). Accordingly, it can be considered a fundamental tool for the quantitative and financial assessment of a company's impact on its stakeholder communities. This measurement allows for determining the company's level of commitment and its social contribution. It is conducted by adopting appropriate indicators and suitable methods in the measurement process, depending on the company's activities, size, and the purpose of disclosing these indicators (Habib et al., 2025, p.273).

The primary objective of social accounting is to measure the costs, revenues, and social impacts of corporate activities that traditional financial accounting cannot capture. Social accounting plays a pivotal role by relying on a set of tools, including financial and quantitative indicators, which represent some of its most important outputs and are used to measure and monitor the social impacts of corporate activities (Renaldo et al., 2022, p. 11), such as employee satisfaction and community engagement. This enhances social disclosure and provides additional performance indicators demanded by stakeholders (Lazkano and Beraza, 2019, p. 3) particularly as

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

companies strive to align with the United Nations framework and the Sustainable Development Goals. This role becomes even more significant as many countries are moving toward mandating the disclosure of non-financial information, either in standalone reports or as part of integrated annual reports (Mook , 2020,p. 21; Ibáñez-Forés, et al., 2023, p. 157).

3.2. Sustainability-reporting frameworks

Corporate sustainability reports have attracted increasing attention from the 1970s to the present, providing information on the company's strategy, resource consumption, and non-financial performance indicators (García-Rivas et al., 2023, p. 2; Wijesooriya et al., 2025, p.1, Bais et al. ,2024, p.1). In response to the growing interest in disclosing non-financial performance, and in line with legislative and regulatory changes regarding the environmental and social impacts of corporate activities, numerous international frameworks and standards have been proposed and developed. These frameworks aim to regulate and standardize environmental disclosure practices. Among the most prominent of these frameworks are (Wijesooriya et al., 2025, p.1; Auwal et al., 2024, p. 33; Bais et al. 2024, p.1):

- 1- Global Reporting Initiative (GRI).
- 2- Sustainability Accounting Standards Board (SASB): Sector-specific standards focused on financial materiality of sustainability issues, mainly in the US.
- 3- Integrated Reporting (IR): Combines financial and sustainability information to show the economic value of sustainability initiatives.
- 4- Task Force on Climate-related Financial Disclosures (TCFD): Focuses on climate-related financial risks and opportunities.
- 5- Science Based Targets Initiative (SBTi): Provides companies with science-based emission reduction targets.
- 6- International Sustainability Standards Board (ISSB): Develops global standards for sustainability-related financial disclosures.

According to numerous studies and reports, the Global Reporting Initiative (GRI) is the most widely adopted framework by companies worldwide (KPMG, 2024, p.33; Bais et al., 2024, p.1).

4. Case study of Sonatrach Raffineria Italiana

4.1. Rationale for Selecting the Company

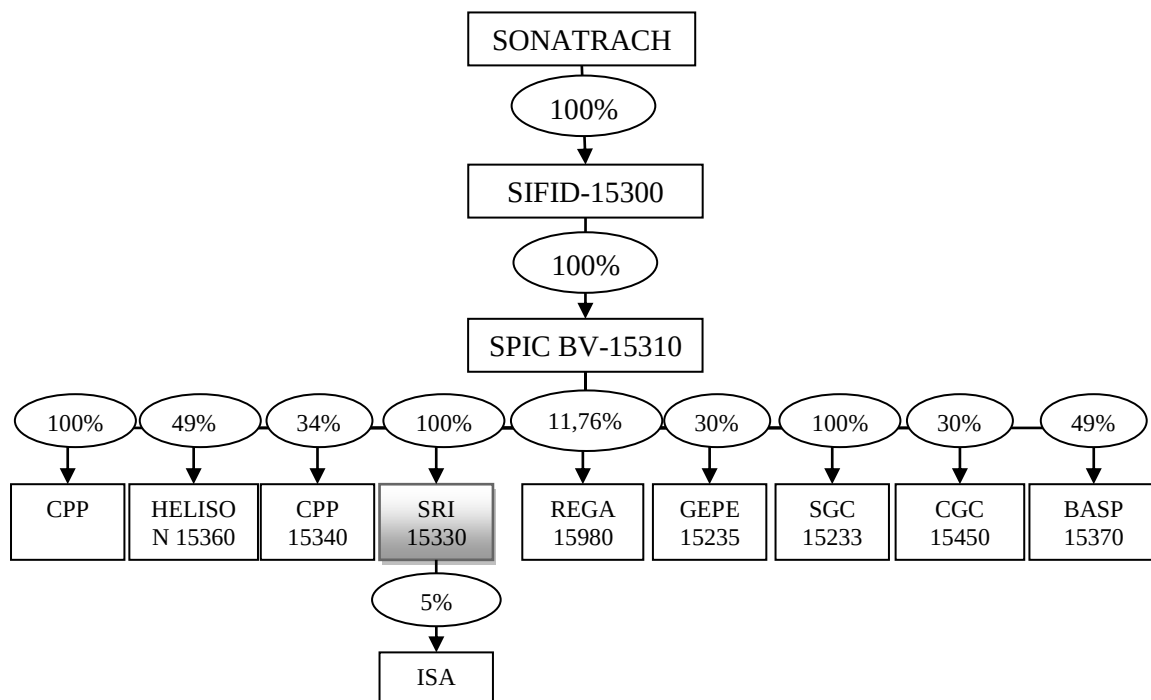
Sonatrach Raffineria Italia SRI was selected for two main reasons. First, it operates in a sector with a significant impact on both the environment and society (IPCC, 2023, p.44). Second, it contributes approximately 10% of the revenues of its parent company, as detailed in Table 1, Sonatrach, currently the most influential company in the Algerian economy. The company has been publishing sustainability reports on its website since its establishment, demonstrating its commitment to transparency and accountability, and facilitating the evaluation of its social and environmental performance (Sonatrach Raffineria Italiana S.r.l., nd). This was previously highlighted by (Benvenuto, 2023, p. 8), who emphasized that companies operating in sectors with negative environmental impacts are more inclined to publish sustainability reports on a continuous basis, as they seek to improve their environmental and social performance, enhance their corporate image, and promote transparency.

4.2.Company Overview and Significance

SRI is the Italian subsidiary of the Algerian national oil company Sonatrach. Established on 28 June 2018 , it maintains its registered office in Milan, while its main operational headquarters are located in Augusta, southern Italy (Sonatrach Raffineria Italiana S.r.l., 2020,p.8). The company also operates storage facilities in Naples and Palermo. It is engaged in crude oil refining, as well as the storage and distribution of refined petroleum products, and is recognized as one of Europe's leading producers of base oils, bitumen, and paraffins. Furthermore, The company is committed to sustainable development and the energy transition, including initiatives in green hydrogen (Sonatrach Raffineria Italiana, 2022, p.11). Fig.1. illustrates the position of SRI within the parent company's organizational structure, highlighting the nature of its ownership and control relationship.

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

Fig . 1. Position of Sonatrach Raffineria Italiana within the Legal Structure of the Parent Company



Source: prepared by the authors based on Sonatrach annual report,2022 , p.128

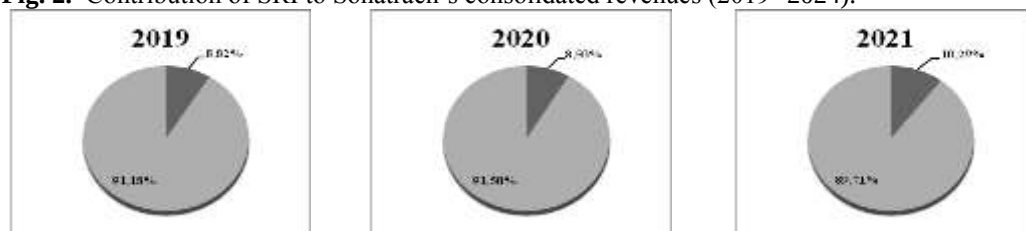
SRI, as a subsidiary, contributes to the Sonatrach Group’s revenues, as shown in Fig.2, while fulfilling its social and economic responsibilities in Italy through human resource management under local legislation and the payment of taxes and duties. Table 2 highlights the social dimension of the subsidiary’s economic performance within corporate sustainability.

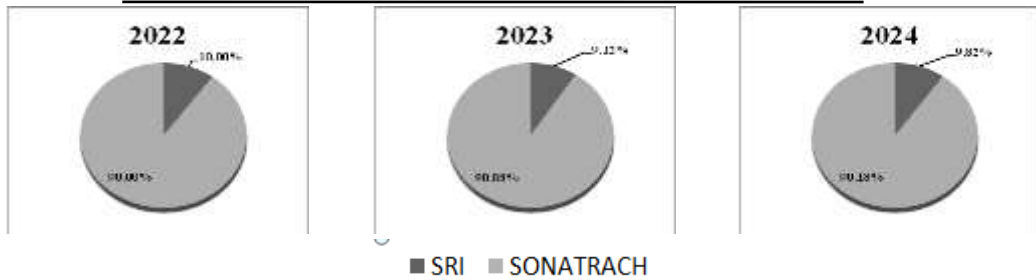
Table 1:Major Financial Indicators of SRI 2019-2024

	Unit	2019	2020	2021	2022	2023	2024
SRI Revenues	M DZD	488 462	338 379	668 475	1 049 999	874 076	848 799
SRI Taxes and duties	M DZD	-	-	-	1820	2 220	2 034
Personnel Expenses	M DZD	10 140	10 160	10 674	11 167	10 213	10 824
Sonatrach Revenues	M DZD	3 980 445	5 537 884	6 494 387	10,592 402	8 641700	9 581 650

Source : Prepared by the authors based on the annual reports of Sonatrach 2020-22-24

Fig. 2. Contribution of SRI to Sonatrach’s consolidated revenues (2019 -2024).





Source: prepared by the authors based on Sonatrach annual reports 2020-22-24

4.3. SRI Reported Social Performance Indicators

The company publishes an annual voluntary Sustainability Report on its official website, which presents a set of key performance indicators. The report is prepared in accordance with the Global Reporting Initiative (GRI) sustainability standards, and the most material topics are selected based on the priorities and interests of the company's stakeholders (SRI S.r.l., n.d.). Table. 2 Provides a list of the core indicators disclosed by the company.

Table 2: Main categories of social performance

Category	GRI Indicators	Focus Area
Employment	401-1, 401-2	Hiring, turnover, employee benefits
Occupational Health and Safety	403-1 to 403-9	Safety management, hazard prevention, worker health
Training and Education	404-1 to 404-3	Employee training, skill development, performance reviews
Local Communities	413-1, 413-2	Community engagement, impact assessment, development programs

Source: prepared by the authors based on SRI's Sustainability Report,2022, p.106.

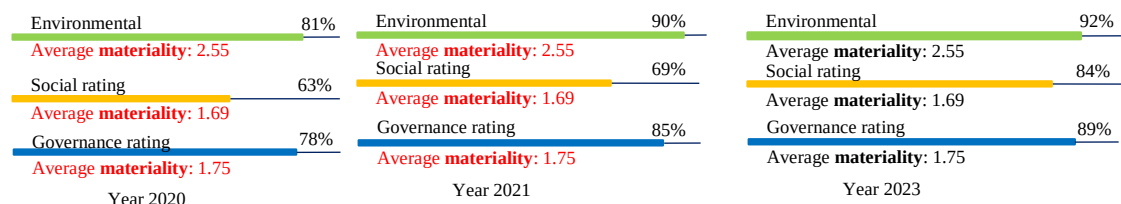
Starting in mid-2019, coinciding with the completion of its first year of operations, the company conducted an assessment of its adopted sustainability strategy to identify its strengths and weaknesses and take appropriate corrective actions (sustainability report, 2022). In this context, the company adopted the Sustainability Impact (SI) Rating developed by SBpA, with the objective of obtaining a sustainability rating (ARB S.B.p.A., n.d).

The purpose of this rating is to assess the extent to which organizations adopt and integrate sustainability factors into their operations, as well as the level of disclosure regarding these factors. A low rating signals the need for greater investment to reduce negative impacts, while a high rating indicates effective management of environmental, social, and governance impacts. Fig. 3 presents the Sustainability Performance (SI)

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

ratings of SRI from 2020 to 2023, highlighting the subsidiary's performance trends.

Fig. 3. Sonatrach Raffineria Italiana Sustainability Performance Rating (2020–2023)



Source: prepared by the authors based on SRI's sustainable report, 2023, p.48.

4.3.1. SRI investments indicators

Investment is considered one of the key pillars for adopting a sustainable growth approach at the corporate level. As part of its investment strategy, the company has placed significant emphasis on enhancing its products, services, and infrastructure, alongside acquiring equipment and assets related to health and safety. Table 3 shows the volume of investments during 2019–2023, while Fig. 5 illustrates the development of investments in social and environmental domains.

Table 3: SRI Investment Categories (2019–2024)

Investment Category	Unit	2020	2021	2022	2023
SRI Invest in Environment, Health and Safety	M €	7.1	7.3	9.1	25.1
Technology (process improvement)	M €	2.6	1.3	3.2	4.7
Reliability	M €	7.3	11.1	13	10.7
Total	M €	17.0	19.7	25.3	40.5

Source: Prepared by the authors based on Sustainability Report 2023, p. 84 and Sustainability Report 2022, p. 49.

4.3.2. SRI Workforce indicators

The personnel of Sonatrach Raffineria Italiana (SRI) are distributed across the south of Italy. The vast majority of employees (>99%) hold permanent, full-time positions and are governed by national collective labor agreements for the energy and petroleum sector, with specific agreements applicable to managerial staff. Table 4 illustrates the workforce evolution by gender from 2019 to 2024, highlighting the distribution of male and female employees over this five-year period.

Table 4 : Workforce composition by gender 2019-2023

	2019	2020	2021	2022	2023
Female	45	-	65	65	75
Male	638	-	660	674	681
Total	683	694	725	739	756

Source: Prepared by the authors based on Sustainability Report 2022, p. 86 and Sustainability Report 2023, p. 167.

4.3.3. SRI Suppliers indicators

SRI collaborates with a diversified supply chain. It promotes job creation, sustainable entrepreneurship, and local engagement, while selecting suppliers through objective evaluations, including both local and international partners. Table 5 presents the suppliers distribution from 2019 to 2023 by local, Italian, foreign, and regional categories.

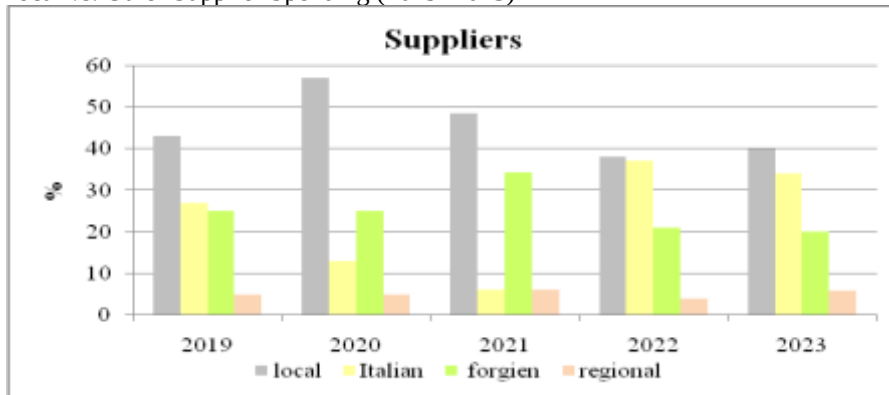
Table 5: SRI Suppliers Distribution (2019–2023)

Suppliers	Unit	2019	2020	2021	2022	2023
Total subsidiaries		190	190	190	-	-
Contractor working	hours	4,250,000	1,678,750	1,837,460	1,820,000	1,724,541
Payments to contractors	(€.00)	356,000,000	215,600,000	203,304,000	241,190,000	203,000,000
Local	%	43	57	48.5	38	40
Italian	%	27	13	34.2	37	34
Foreign	%	25	25	11.1	21	20
Regional	%	5	5	6.2	4	6

Source: Prepared by the authors based on Sustainability Report 2022, p. 49 and Sustainability Report 2023, p. 87.

In accordance with GRI 204-1, the company discloses the proportion of expenditures on local suppliers relative to other suppliers, with the aim of assessing its contribution to the local economy and promoting social and economic development in the regions where it operates. Fig .4 illustrates the evolution of these indicators from 2019 to 2023.

Fig. 4. Local vs. Other Supplier Spending (2019–2023)



Source: Prepared by the authors based on Sustainability Report 2022, p. 49 and Sustainability Report 2023, p. 87.

4.3.4. Training hours indicators

The company provides newly hired employees with a three-month training program designed to strengthen their skills. In accordance with GRI 404, it reports indicators on the total number of training hours, average training hours, and, for the years 2019 to 2021, the categories of trained

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

employees. Fig 5 presents the evolution of the total training hours indicator, while more detailed data, including a breakdown by employee category, is illustrated in Table 6.

Table 6: Training Hours by Employee Category (2019–2023)

Training Hours	2019	2020	2021	2022	2023
Health and Safety	15,302	21,362	18,765	-	-
Technical- Professional	29,091	100,942	47,800	-	-
Managerial and languages	126	208	274	-	-
Total training hours	44 519	122 512	66 839	76 763	70 736

Source: Prepared by the authors based on Sustainability Report 2022, pp. 88–89 and Sustainability Report 2023, p. 84.

4.3.5. SRI Injuries indicators

SRI reports in accordance with the requirements of GRI 403-9: on work-related injury indicators. Table 7 presents key occupational health and safety indicators, reflecting SRI's commitment to sustainable workplace practices. In 2023, the Total Recordable Incident Rate (TRIR) stood at 0.13.

Table 7: Occupational Health and Safety Indicators (2019–2023)

Indicator	2019	2020	2021	2022	2023
Total occupational injuries	-	1	0	2	2
High-consequence work-related injuries	-	0	0	0	0
Work-related fatalities	-	0	0	0	0
Total recordable occupational injuries	-	1	0	2	2
Total hours worked per year	1,328,736	1,210,850	1,235,590	1,244,727.01	1,298,243.81
Total recordable Injury rate (TRIR)	0.26	0.07	0.00	0.13	0.13

Source: Prepared by the authors based on Sustainability Report 2022, p. 95 and Sustainability Report 2023, p. 190.

The TRIR is a key workplace safety metric. It is calculated by multiplying the total number of recordable work-related injuries by 200,000, then dividing by the total hours worked, standardized to 100 employees working 40 hours per week for 50 weeks. Fig. 5 illustrates the evolution of the TRIR over the period 2019–2023.

4.3.6. Parental leave Indicator

According to GRI 401 –Employment Standard, organizations should disclose the type of Non- mandatory benefits offered to full- time employees. These typically encompass health and well-being provisions, as well as financial and retirement benefits. Additionally, organizations may provide work–life balance measures, including parental leave exceeding legal minimums, flexible or remote working arrangements, and childcare assistance (GRI, 2016).

GRI 401-3 standard focuses on parental leave and requires organizations to disclose information on leave related to the birth or adoption of a child. SRI has been disclosing this information since 2022.

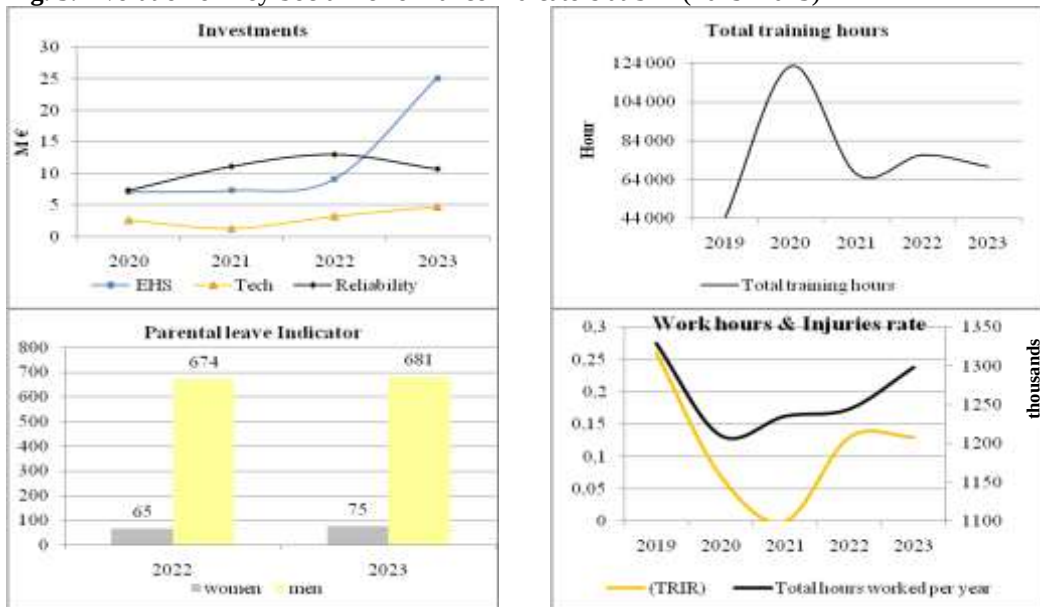
Table 8: Parental Leave Statistics by Gender (2022–2023)

Nunmer of Employees	2022		2023	
	Women	Men	Women	Men
Qualifying for parental leave	65	674	75	681
That took parental leave	6	5	13	19
Returned to work after parental leave ended	6	5	13	19
Retained(12 month) after parental leave	6	5	13	19
Return to work rate	100%	100%	100%	100%

Source: Prepared by the authors based on Sustainability Report 2023, p. 174.

To illustrate the development of key social performance indicators adopted by SRI during the period 2019–2023, Fig. 5 presents these trends, which will be further analyzed to derive findings in the following section.

Fig. 5. Evolution of Key Social Performance Indicators at SRI (2019–2023)



Source: prepared by the authors base on SRI's sustainable reports .

4.3.7. Gender pay gaps indicators

In line with the requirements of the GRI Standard 405-2, which relates to the disclosure of wages and remuneration received by male and female employees, SRI publishes information on the gender pay gap. It should be noted that the first disclosure of these indicators occurred in 2022. Table 9 presents the data for the years 2022 and 2023, enabling the assessment of the company's progress toward achieving pay equity.

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

Table 9: Gender Pay Gaps (2022–2023)

		Managers	Middle managers	Employees	Workers
Women/Men basic salary gap %	2022	8.1	4.0	15.3	12.7
	2023	11.6	1.0	18.2	0.4
Women/Men Remuneration gap%	2022	10.0	15.2	36.5	18.7
	2023	11.0	15.0	39.1	6.9

Source: Prepared by the authors based on Sustainability Report 2023, p. 173.

5. Results and Analysis

Overall, as illustrated in Fig. 4, SRI relies primarily on local and national suppliers. During the period from 2019 to 2023, local suppliers represented the largest proportion, reaching a peak of 57% in 2020. This increase was a result of the restrictions imposed on international economies due to the COVID-19 pandemic. This pattern is consistent with the requirements of the GRI 204-1 standard and reflects the company's significant contribution to the economic development of the region, and also demonstrates its positive social performance by contributing to local employment and community well-being.

Table 3 presents the distribution of SRI's investments over the period 2019–2023 and reflects the company's commitment to investing in sustainable development areas. Fig. 5 shows a significant increase in investments in Environment, Health, and Safety, amounting to approximately 254% between 2019 and 2023. This increase reflects the company's proactive approach to protecting its employees from environmental risks and promoting social well-being. These investments highlight the company's engagement in the social dimension of sustainable development and demonstrate an improvement in its social performance.

Training is one of the main drivers of organizational social performance. Fig. 5 highlights the evolution of the training indicator in accordance with the requirements of GRI Standard 404 over the period 2019–2023. This trend shows a peak in training hours in 2020, followed by a decline in 2021 and a period of relative stability between 2022 and 2023. Moreover, Table 6 indicates that technical and professional training represents the largest share of total training hours, followed by health and safety training, reflecting the company's social commitment to human capital development and the promotion of a safe and sustainable working environment.

The indicators reported in Table 7, in accordance with GRI 403, show a significant reduction in occupational injuries, with no high-consequence or fatal work-related incidents recorded. Although total annual hours worked fluctuated during the study period, the Total Recordable

Injury Rate (TRIR) decreased markedly from 0.26 in 2019 to 0 in 2021, before stabilizing at 0.13 in 2022–2023, as illustrated in Fig. 5. This performance demonstrates the effectiveness of the preventive measures implemented to mitigate risks by ensuring a safe and sustainable working environment.

The indicators, which the company began disclosing in 2022, as presented in Table 8, reflect the company's commitment to supporting employees' work-life balance. Fig. 5 shows an increase in the number of employees taking parental leave, with a 15.38% increase for women and a 1.04% increase for men, while the absolute number of men taking leave remains significantly higher. The Table 8 further indicates that all employees who took parental leave returned to work and were retained for at least 12 months, highlighting the effectiveness of the company's policies in promoting gender-inclusive participation and ensuring workforce sustainability.

The gender pay gap for the period 2022–2023 shows a reduction among lower-level workers, from 12.7% to 0.4%, while disparities remain in higher-level job categories.

6. CONCLUSION

This study concludes that social accounting functions as an information system that enables SRI to measure social performance indicators. These indicators help identify strengths and weaknesses in social performance, allow comparisons with established standards, and support sustainable improvement. Moreover, the study emphasizes social performance as a key pillar of corporate sustainability, demonstrating how such indicators contribute to informed decision-making and the promotion of responsible organizational practices. Based on the findings of the study, the validity of the three research hypotheses is confirmed.

The research was based on social performance indicators disclosed in the sustainability reports of SRI for the period 2019–2023, which represent the most recent publications available. By tracking and analyzing the evolution of these indicators, we found that, although the company achieved improvements in certain domains, some indicators reflected weaker performance, including the persistent gender pay gap in higher-level positions, a decline in training in languages and managerial skills, and inconsistencies in overall training frequency.

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

One of the main challenges we encountered was the unavailability of reports for the years 2024–2025 up to the end of 2025, in addition to the disclosure of a specific indicator in one year followed by its absence in subsequent years, which hinders an accurate assessment of its development.

Through future studies, we aim to compare the social performance of companies operating in developed countries with that of companies active in Algeria within the same sector, with the goal of assessing the extent to which multinational companies are committed to sustainable social performance, particularly in the context of less-developed countries.

7. Bibliography List

1. Afshari, H., Agnihotri, S., Searcy, C., & Jaber, M. Y. (2022). Social sustainability indicators: A comprehensive review with application in the energy sector. *Sustainable Production and Consumption*, 31, 263–286. <https://doi.org/10.1016/j.spc.2022.01.010>.
2. ARB S.B.p.A. (n.d.). *SI Rating: Corporate Sustainability Software and ESG Reporting*. Retrieved December 20, 2025, from <https://www.arbb.it/en/si-rating-eng/>
3. Arif, M., Gan, C., Nadeem, M., 2021. Regulating non-financial reporting: Evidence from European firms' environmental, social and governance disclosures and earnings risk. *Meditari Accountancy Research*, 30 (3): 495–523. <https://doi.org/10.1108/MEDAR-11-2020-1086>.
4. Asha'ari, M. J., Daud, S., & Mohd Suki, N. (2023). *Linking sustainable design and social sustainability performance of chemical manufacturing firms: Moderating role of Islamic work ethics*. *Sustainability*, 15(7), 5991. <https://doi.org/10.3390/su15075991>
5. Auwal, B. M., Ibrahim, M., Balarabe, A. S., & Isa, I. A. (2024). Sustainability reporting frameworks: A comparative analysis of reporting standards and their implications for accounting and reporting. *International Journal of Accounting, Finance, and Administrative Research*, 1(2), 32. <https://fr.scribd.com/document/961530894/Sustainability-Reporting-Frameworks-a-Comparative-Analysis-of-Reporting-Standards-and-Their-Implications-for-Accounting-and-Reporting>
6. Chen, C.-M., & Li, D. (2024). Weighing in on the average weights: Measuring corporate social performance (CSP) score using DEA. *Omega*, 126, 102817. <https://doi.org/10.1016/j.omega.2024.103072>.
7. Denu, M. K., Bentley, Y., & Duan, Y. (2023). *Social sustainability performance: Developing and validating measures in the context of emerging African economies*. *Journal of Cleaner Production*, 412, 137391. <https://doi.org/10.1016/j.jclepro.2023.137391>
8. Elkington, J. (2018, June 25). *25 years ago I coined the phrase “triple bottom line.” Here’s why it’s time to rethink it*. Harvard Business Review. <https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it>
9. García-Rivas, M. I., Gálvez-Sánchez, F. J., Noguera-Vivo, J. M., & Meseguer-Sánchez, V. (2023). *Corporate social responsibility reports: A review of the evolution, approaches and prospects*. *Heliyon*, 9(7). <https://doi.org/10.1016/j.heliyon.2023.e18348>.
10. Gray, R. (2002). The social accounting project and Accounting, Organizations and Society: Privileging engagement, imaginings, new accountings and pragmatism over critique? *Accounting, Organizations and Society*, 27(7), 687–708. [https://doi.org/10.1016/S0361-3682\(00\)00003-9](https://doi.org/10.1016/S0361-3682(00)00003-9)
11. Habib, M., Kahina, C., Ines, S., Amina, K., & Mohammed, G. (2025). The role of social responsibility accounting in achieving sustainable development: The case of major industrial groups in Algeria. *The International Tax Journal*, 52(3), 270–286. <https://internationaltaxjournal.online/index.php/itj/article/view/60>.

12. Ibáñez-Forés, V., Martínez-Sánchez, V., Valls-Val, K., & Bovea, M. D. (2023). How do organisations communicate aspects related to their social performance? A proposed set of indicators and metrics for sustainability reporting. *Sustainable Production and Consumption*, 35, 157–172. <https://doi.org/10.1016/j.spc.2022.10.024>
13. Jankalová, M., & Jankal, R. (2024). *Review of sustainability accounting terms*. *Administrative Sciences*, 14(7), 137. <https://doi.org/10.3390/admsci14070137>.
14. Jones, M. J. (2010). Accounting for the environment: Towards a theoretical perspective for environmental accounting and reporting. *Accounting Forum*, 34(2), 123–138. <https://doi.org/10.1016/j.accfor.2010.03.001>
15. Karaman, A. S., Orazalin, N., Uyar, A., & Shahbaz, M. (2021). CSR achievement, reporting, and assurance in the energy sector: Does economic development matter? *Energy Policy*, 149, 112007. <https://doi.org/10.1016/j.enpol.2020.112007>
16. Kühnen, M., & Hahn, R. (2018). Systemic social performance measurement: Systematic literature review and explanations on the academic status quo from a product life-cycle perspective. *Journal of Cleaner Production*, 205, 690–705. <https://doi.org/10.1016/j.jclepro.2018.08.201>
17. Kumar, S., & Kumar, A. (2025). *Integrating ESG into business strategy: A paradigm shift from traditional accounting to sustainability accounting*. *International Journal of Recent Trends in Multidisciplinary Research*, 5(3), 112–116. <https://doi.org/10.59256/ijrtmr.20250503013>.
18. Lamberton, G. (2005). *Sustainability accounting: A brief history and conceptual framework*. *Accounting Forum*, 29(1), 7–26. <https://doi.org/10.1016/j.accfor.2004.11.001>
19. Lazkano, L., & Beraza, A. (2019). Social accounting for sustainability: A study in the social economy. *Sustainability*, 11(24), 6894. <https://doi.org/10.3390/su11246894>
20. Malik, A., Egan, M., du Plessis, M., & Lenzen, M. (2021). Managing sustainability using financial accounting data: The value of input-output analysis. *Journal of Cleaner Production*, 293, 126128. <https://doi.org/10.1016/j.jclepro.2021.126128>
21. Mook, L. (2020). Performance management, impact measurement, and the Sustainable Development Goals: The fourth wave of integrated social accounting. *Canadian Journal of Nonprofit and Social Economy Research / Revue canadienne de recherche sur les OBSL et l'économie sociale*, 11(2), 20–34. <https://doi.org/10.29173/cjnser.2020v11n2a353>
22. Rehan, M. H., Yeo, S. F., Khan, I. U., & Tan, C. L. (2025). Redefining the strength between CSR and sustainable social performance through mediational role of green intellectual capital. *Cleaner and Responsible Consumption*, 16, <https://doi.org/10.1016/j.clrc.2024.100238>
23. Renaldo, N., Junaedi, A. T., Sudarno, Br Hutahuruk, M., Fransisca, L., & Cecilia. (2022). Social accounting and social performance measurement in corporate social responsibility. *International Conference on Business Management and Accounting (ICOBIMA)*, 1(1), 10–16.
24. Richmond, B. J., Mook, L., & Quarter, J. (2003). *Social accounting for nonprofits: Two models*. *Nonprofit Management and Leadership*, 13(4), 308–324. <https://doi.org/10.1002/nml>.
25. SASB (Sustainability Accounting Standards Board). (n.d.). *Materiality Map*. Retrieved December 20, 2025, from <https://sasb.ifrs.org/standards/materiality-map>
26. Sonatrach Raffineria Italiana S.r.l. (2020). *Organizational, management and control model pursuant to the D. Lgs. 231/01: General part* (Approved by the Board of Directors on August 3, 2020). https://sonatrachitalia.it/wp-content/uploads/2021/07/SRI-Modello-231-Parte-generale-ENG-24052021.pdf?utm_source=chatgpt.com.
27. Sonatrach Raffineria Italiana S.r.l. (n.d.). <https://sonatrachitalia.it/azienda/bilanci-di-sostenibilita>
28. Sonatrach Raffineria Italiana. (2023). *Sustainability Report 2023*. Retrieved November 20, 2025, https://sonatrachitalia.it/dwn/EN_Bilancio_di_Sostenibilita_SRI_2022_2023_compressed.pdf

The Role of Social Accounting in Assessing Sustainable Corporate Social Performance: A Case Study of SRI 2019-2023

29. Sonatrach Raffineria Italiana. (2022). *Sustainability Report 2022*. Retrieved November 20, 2025, https://sonatrachitalia.it/dwn/bilancio-di-sostenibilita-2022_Sonatrach_EN_27.10_compressed.pdf
30. Sonatrach. (2020). *Annual report 2020*. Sonatrach Spa. <https://fr.scribd.com/document/645195846/Rapport-Annuel-2020-1>
31. Sonatrach. (2022). *Annual report 2022*. Sonatrach Spa. https://sonatrach.com/wp-content/uploads/2025/06/RA_2022_EN_Web.pdf
32. Sonatrach. (2024). *Annual report 2024*. Sonatrach Spa. https://sonatrach.com/wp-content/uploads/2025/12/RA_2024_EN_-08-dec.pdf
33. United Nations Framework Convention on Climate Change. (2015). *Paris Agreement* (FCCC/CP/2015/10/Add.1). https://unfccc.int/sites/default/files/resource/parisagreement_publication.pdf
34. United Nations Framework Convention on Climate Change. (2021). *The Glasgow Climate Pact* (FCCC/PA/CMA/2021/L.16). UNFCCC. <https://unfccc.int/documents/310475>
35. United Nations Framework Convention on Climate Change. (2022). *2022 United Nations Climate Change Conference: COP27 official sustainability report, Sharm El-Sheikh, 6–18 November 2022*. UNFCCC. https://unfccc.int/sites/default/files/resource/cop27_sustainability_report.pdf
36. Wijesooriya, N., Thomas, L. D. W., & Vassallo, J. (2025). Trends in Sustainability Reporting Frameworks: A Critical Review of Evolution and Drivers in Fossil Fuel Organisations. *Proceedings*, 131(1), 70. <https://doi.org/10.3390/proceedings2025131070>
37. World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press. <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>
38. Global Reporting Initiative. (n.d.). *GRI Standards*. Global Reporting Initiative. <https://www.globalreporting.org/standards/>
39. Dauerer, A., 2025. A systematic literature review of performance measurement systems and the integration of ESG factors. *Environmental and Sustainability Indicators*, 27, 100746. <https://doi.org/10.1016/j.indic.2025.100746>
40. Bais, B., Nassimbeni, G., & Orzes, G. (2024). *Global Reporting Initiative: Literature review and research directions*. *Journal of Cleaner Production*, 471, 143428. <https://doi.org/10.1016/j.jclepro.2024.143428>
41. Suhendar, S., Siregar, I. F., & Ridwansyah. (2023). *The role of sustainability accounting: Environmental, social and economic accountability*. *International Journal of Economics (IJE)*, 2(2), 571–578. <https://ejournal.ipinternasional.com/index.php/ijec/article/view/582>
42. Intergovernmental Panel on Climate Change (IPCC), 2023. *Climate Change 2023: Synthesis Report*. The Sixth Assessment Report of the IPCC, pp. 35-115. https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf
43. KPMG, 2024. *The move to mandatory reporting: Survey of Sustainability Reporting 2024*. KPMG International.
44. Benvenuto, M., Aufiero, C., & Viola, C. (2023) – *A systematic literature review on the determinants of sustainability reporting systems* (*Heliyon*, 9, e14893). <https://doi.org/10.1016/j.heliyon.2023.e14893>
45. Zhang, M., Tong, L., Su, J., & Cui, Z. (2015). *Analyst coverage and corporate social performance: Evidence from China*. *Pacific-Basin Finance Journal*, 32, 76–94. <https://doi.org/10.1016/j.pacfin.2015.02.005>
46. Chen, L., Feldmann, A., & Tang, O. (2015). *The relationship between disclosures of corporate social performance and financial performance: Evidence from GRI reports in the manufacturing industry*. *International Journal of Production Economics*, 170, 445–456. <https://doi.org/10.1016/j.ijpe.2015.04.004>