

# Environmental social responsibility: research trends

*Responsabilidad social medioambiental: tendencias de la investigación*

*Responsabilidade social ambiental: tendências de pesquisa*

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## Abstract

*Introduction:* The environment is facing a significant crisis due to pollution caused by human and industrial activities. The use of fossil fuels and improper solid waste management are major contributors to environmental degradation. This article is the result of the research project "Leadership and Financial Performance in the Colombian Clay Sector," developed at the Universidad Libre Colombia Seccional Cúcuta in 2024.

*Problem:* Environmental Social Responsibility (ESR) refers to the actions companies take to protect the environment. A company is considered socially responsible if it commits to environmental sustainability and adopts practices that ensure the efficient management of resources.

*Objective:* The aim of this study is to analyze the current trends in research related to Environmental Social Responsibility.

*Methodology:* A bibliometric analysis was conducted using data from the Scopus database and analyzed with the VOSviewer software.

*Results:* The analysis of the keywords led to the generation of two distinct clusters. The first, represented in red, is related to green policies, while the second, identified in green, focuses directly on Environmental Social Responsibility.

*Conclusion:* Current research trends are primarily focused on environmental performance, ESG (Environmental, Social, and Governance), and the effects of COVID-19. These trends highlight the shift towards sustainable behaviors, promoting environmentally friendly practices and establishing policies that strengthen pro-environmental attitudes and increase environmental awareness.

*Originality:* This research introduces new insights into the trends in Environmental Social Responsibility, using a novel search engine that enables the identification of new clusters.

*Limitations:* The study relies exclusively on data from the Scopus database and does not incorporate other databases for a broader perspective.

**Keywords:** Environmental Social Responsibility, Green Policies, Environmental Performance, ESG, COVID-19

## Resumen

*Introducción:* El medio ambiente se enfrenta a una grave crisis debido a la contaminación generada por las actividades humanas e industriales. El uso de combustibles fósiles o residuos sólidos es uno de los factores que tiene un efecto destructivo sobre el medio ambiente. El artículo es producto del proyecto de investigación «Liderazgo y Desempeño Financiero en el Sector Arcillero Colombiano», desarrollado en la Universidad Libre Colombia Seccional Cúcuta en el año 2024.

*Problema:* La Responsabilidad Social Ambiental son las acciones que realizan las empresas para proteger el medio ambiente. Una empresa es socialmente responsable si asume compromisos ambientales y adopta prácticas sostenibles que promuevan el manejo eficiente de los recursos.

*Objetivo:* Analizar la tendencia de la investigación en Responsabilidad Social Ambiental. Metodología: Un análisis bibliométrico utiliza información de la base de datos Scopus y del programa VOSviewer.

*Resultados:* El autor analiza las palabras clave y genera dos clusters. El primer cluster identificado con el color rojo está relacionado con las políticas verdes. A su vez, el cluster identificado con el color verde está directamente relacionado con la Responsabilidad Social Medioambiental.

*Conclusiones:* La tendencia actual de la investigación se centra en el comportamiento medioambiental, ESG y COVID-19. Los comportamientos ambientales se traducen en comportamientos sostenibles, favoreciendo

prácticas respetuosas con el medio ambiente y estableciendo políticas que refuerzan las actitudes proambientales de la sociedad y una mayor concienciación ambiental.

*Originalidad:* La investigación revela la tendencia de la investigación en Responsabilidad Social Ambiental a partir de un nuevo motor de búsqueda, que permite la generación de nuevos clusters. Limitaciones: La investigación se centra únicamente en la base de datos Scopus y no considera otras bases de datos.

**Palabras clave:** Responsabilidad Social Ambiental, Políticas Verdes, Desempeño Ambiental, ESG, COVID-19

## Resumo

*Introdução:* O meio ambiente enfrenta uma grave crise devido à poluição gerada por atividades humanas e industriais. O uso de combustíveis fósseis e resíduos sólidos é um dos fatores que causam impacto destrutivo no meio ambiente. Este artigo é resultado do projeto de pesquisa "Liderança e Desempenho Financeiro no Setor Argila Colombiano", desenvolvido na Universidad Libre Colombia, Filial Cúcuta, em 2024.

*Problema:* Responsabilidade Social Ambiental refere-se às ações tomadas pelas empresas para proteger o meio ambiente. Uma empresa é socialmente responsável se assume compromissos ambientais e adota práticas sustentáveis que promovem a gestão eficiente de recursos.

*Objetivo:* Analisar as tendências de pesquisa em Responsabilidade Social Ambiental. Metodologia: Uma análise bibliométrica utiliza informações da base de dados Scopus e do VOSviewer.

*Resultados:* O autor analisa as palavras-chave e gera dois clusters. O primeiro cluster, identificado em vermelho, está relacionado às políticas verdes. Já o cluster identificado pela cor verde está diretamente relacionado à Responsabilidade Social Ambiental.

*Conclusões:* A tendência atual de pesquisa concentra-se em comportamento ambiental, ESG e COVID-19. Comportamentos ambientais se traduzem em comportamentos sustentáveis, promovendo práticas ecologicamente corretas e estabelecendo políticas que reforçam atitudes pró-ambientais e uma maior consciência ambiental da sociedade.

*Originalidade:* Esta pesquisa revela a tendência de pesquisa em Responsabilidade Social Ambiental utilizando um novo mecanismo de busca, que permite a geração de novos clusters. Limitações: A pesquisa concentra-se exclusivamente na base de dados Scopus e não considera outras bases de dados.

**Palavras-chave:** Responsabilidade Social Ambiental, Políticas Verdes, Desempenho Ambiental, ESG, COVID-19

## 1. INTRODUCTION

Social Responsibility (SR) has gained increasing prominence over the years in publications, academic programs, and business practices [1]. Today, both governments and society at large demand more responsibility from companies, urging them to make a positive impact on society, the environment, and their financial management [2]. In 1999, the United Nations launched the Global Compact to promote human and environmental principles, followed by the European Union's introduction of the Green Book in 2002 to encourage SR across all business sectors [3].

SR traces its roots back to the Industrial Revolution, but it wasn't until the 1960s that the debate about the relationship between private and public ethics gained traction, as managers began to prioritize organizational standards over personal values [4]. This shift in perspective led to the promotion of business growth by offering better salaries and living standards for workers [5] [6].

Within the SR framework, there was also a growing demand for philanthropic activities, such as donations to cultural, educational, and religious initiatives, supporting projects that benefit the community [7] [8]. Furthermore, concerns about civil rights, gender equality, and consumer rights gained importance [9] [10]. These developments prompted companies to seek solutions to social and environmental problems through new leadership that could drive business success [11] [12].

In this context, the Stakeholder Theory emerged, introducing the concept of stakeholders—groups that contribute to an organization and should receive compensation equal to or greater than what they provide. This includes shareholders, customers, suppliers, and employees. The theory has become a fundamental tool for studying ethics and SR [13] [14].

Currently, the United Kingdom has established a Ministry of SR to ensure that companies generate economic, social, and environmental benefits by supporting programs that promote transparency and shared ethical values. In France, regulations assure investors that their capital is directed toward companies that uphold human values. In Latin America, various initiatives promote conscious consumption and the development of indicators to guide the selection of products and companies [15].

Organizations face significant challenges due to globalization and technological advances, requiring internal changes that align strategies with ethical, fair decision-making. Ethics provide the social purpose necessary to balance organizational activities with the common goals of all businesses, such as financial resources and reputation [16]. SR and ethics are reflected in how organizations respond to stakeholders, maintaining quality and trust [17].

In 1983, the United Nations World Commission on Environment and Development defined Sustainable Development (SD) as socio-economic development that meets the needs of the present without compromising the ability of future generations to meet their own needs [15]. This vision remains relevant today, as companies are urged to reformulate their business models to be more socially, economically, and environmentally aware to ensure long-term sustainability [18] [19].

The environment is facing a severe crisis due to pollution caused by human and industrial activities [20] [21]. The use of fossil fuels and improper waste management are major contributors to environmental damage [22] [23]. Additionally, population

growth exacerbates negative environmental impacts, such as water waste and the use of aerosols [24] [25]. As such, it is critical to promote ecological awareness that fosters environmental stewardship and values. Research also plays a crucial role in encouraging sustainable practices and advancing environmental social responsibility (ESR) [26] [27].

Efforts to mitigate environmental damage vary across countries, with different legal frameworks, government policies, and strategies encouraging companies to take action to reduce their environmental impact [28] [3]. In this context, ESR refers to the actions taken by companies to protect the environment [29] [30]. A company is considered socially responsible when it commits to environmental sustainability and adopts practices that ensure efficient resource management [31] [32].

To adapt to climate change, companies implement responsible practices to minimize environmental impacts and reinforce their commitment to society [33] [8]. This includes reviewing production processes and their environmental impacts [34] [12]. Promoting environmental care and advancements in management practices are crucial for maintaining corporate reputation and social responsibility [35] [36]. This research aims to analyze the trends in Environmental Social Responsibility research.

## 2. MATERIALS AND METHODS

The research was qualitative. A bibliometric analysis was conducted using information from the Scopus database and the VOSviewer program [37]. The search term was the following:

( TITLE-ABS-KEY ( "social responsibility" ) AND TITLE-ABS-KEY ( environment ) ) AND PUBYEAR > 2002 AND PUBYEAR < 2026 AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) ) AND ( LIMIT-TO ( PUBSTAGE , "final" ) ) .

In this sense, articles published and completed in 2003-2024 in English were considered. The search yielded 5,410 articles that met the criteria. The research questions that were answered were the following:

- How many papers have been published per year?
- How many papers have been published per journal?
- How many papers have been published by the author?
- How many papers have been published by affiliation?
- How many papers have been published by country?
- How many papers have been published by area?
- What is the status of co-authorship by the author?

- What is the status of co-authorship by country?
- What is the status of the occurrence of all keywords?
- What is the status of the author's occurrence of keywords?

### 3. RESULTS

Table 1 shows that scientific production on environmental social responsibility has increased recently, reaching 529 articles by 2022, 542 by 2023, and 469 by 2024. The results reveal that there has been notable growth in research on sustainable practices that consider environmental impacts and the reduction of the ecological footprint in recent years.

**Table 1.** Documents by year

YEAR	DOCUMENTS
2025	1
2024	469
2023	542
2022	529
2021	442
2020	444
2019	402
2018	331
2017	307
2016	262
2015	247
2014	215
2013	212
2012	190
2011	174
2010	154
2009	129
2008	94
2007	82
2006	63
2005	52
2004	35
2003	34

**Source:** own work

Table 2 shows the documents published by the journal. The first three places are occupied by Sustainability Switzerland (354), Corporate Social Responsibility And Environmental Management (252), and Journal Of Business Ethics (159). The journals are highly impactful and indexed in quartile one of the Scopus databases. These journals publish diverse works related to sustainable innovation and energy efficiency.

**Table 2. Documents by journal**

N°	AREA	DOCUMENTS	CUARTIL
1	Sustainability Switzerland	354	Q1
2	Corporate Social Responsibility And Environmental Management	252	Q1
3	Journal Of Business Ethics	159	Q1
4	Journal Of Cleaner Production	120	Q1
5	Social Responsibility Journal	110	Q1
6	Business Strategy And The Environment	92	Q1
7	International Journal Of Environmental Research And Public Health	60	Q1
8	Environmental Science And Pollution Research	35	Q1
9	Journal Of Business Research	30	Q1

**Source:** own work

Table 3 shows that the first four positions in terms of published papers are occupied by García-Sánchez, I.M. (17), Comfort, D. (10), Han, H. (10), and Jones, P. (10). The work of these authors reflects a response to the growing social demand for greater environmental responsibility from companies and all organizations that have an impact on the environment.

**Table 3. Documents by author**

N°	AUTHOR	DOCUMENTS
1	García-Sánchez, I.M.	17
2	Comfort, D.	10
3	Han, H.	10
4	Jones, P.	10
5	Ahmad, N.	9
6	Hillier, D.	9
7	Martínez-Ferrero, J.	9
8	Sial, M.S.	9
9	Kolk, A.	7
10	Lu, J.	7

**Source:** own work

Table 4 shows that the leading universities in scientific research on environmental social responsibility are Bucharest University of Economic Studies (39), The Hong Kong Polytechnic University (38), Universiti Sains Malaysia (31), and Universiti Utara Malaysia (31). These European and Asian universities are at the forefront of research that encourages the development of innovative public policies, promotes circular economy initiatives, and focuses on efficient resource management. Their work aims to integrate responsible environmental practices within companies, contributing to sustainable development goals globally.

**Table 4. Documents by affiliation**

<b>N°</b>	<b>AFFILIATION</b>	<b>DOCUMENTS</b>
<b>1</b>	Bucharest University of Economic Studies	39
<b>2</b>	The Hong Kong Polytechnic University	38
<b>3</b>	Universiti Sains Malaysia	31
<b>4</b>	Universiti Utara Malaysia	31
<b>5</b>	Universidad de Salamanca	30
<b>6</b>	Deakin University	25
<b>7</b>	The University of Manchester	24
<b>8</b>	Monash University	23
<b>9</b>	York University	23
<b>10</b>	Rijksuniversiteit Groningen	20

**Source:** own work

Table 5 shows that the countries with the highest scientific production on environmental social responsibility are the United States (941), China (721), and the United Kingdom (554). It is worth noting that South Korea is leading in research on environmental practices that focus on reducing carbon emissions, while China is making significant investments in green policies. These countries are at the forefront of scientific efforts to address environmental challenges and promote sustainable practices globally.

**Table 5. Documents by country**

<b>N°</b>	<b>COUNTRY</b>	<b>DOCUMENTS</b>
<b>1</b>	United States	941
<b>2</b>	China	721

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N°	COUNTRY	DOCUMENTS
3	United Kingdom	554
4	Spain	327
5	Australia	274
6	India	272
7	Canada	222
8	Malaysia	190
9	Italy	187
10	South Korea	151

**Source:** own work

Table 6 reveals that the main areas of study are Business, Management, and Accounting (2672), Social Sciences (2369), and Environmental Science (1440).

**Table 6. Documents by area**

N°	SUBJECT AREA	DOCUMENTS
1	Business, Management and Accounting	2672
2	Social Sciences	2369
3	Environmental Science	1440
4	Economics, Econometrics and Finance	1071
5	Energy	660
6	Engineering	585
7	Medicine	509
8	Computer Science	446
9	Arts and Humanities	403
10	Decision Sciences	258

**Source:** own work

For the analysis of co-authorship per author, a criterion of two papers per author and at least one hundred and fourteen citations was applied. The results showed that out of 5286 authors, only 20 met this criterion. The authors with the most papers were Camilleri M.A. (5), Jones P., Comfort D., Hillier D. (4), and Kolk A. (3). In terms of citations, the top three authors were Kolk A. (1092), Mishra S. (604), and Suar D. (604), followed by Fernández-Feijoo B., Romero S., and Ruiz S. (410) (Table 7). The mapping of co-authorship revealed that there is no significant collaboration between authors, indicating a more fragmented approach to research on environmental social responsibility.

**Table 7. Co-authorship by author**

N°	AUTHOR	DOCUMENTS	AUTHOR	CITATIONS
1	Camilleri M.A.	5	Kolk A.	1092
2	Jones P. et al.	4	Mishra S.; Suar D.	604
3	Kolk A.	3	Fernández-Feijoo B. et al.	410
4	Mishra S. et al.	3	Cruz J.M.	399
5	Cruz J.M.	3	Callan S.J. et al.	354
6	Callan S.J. et al.	3	Weber O.	324
7	Galbreath J.	3	Kolk A.; Pinkse J.	316
8	Secchi D.	3	Galbreath J.	315
9	Wang L. et al.	3	Ite U.E.	311
10	Fernández-Feijoo B. et al.	2	Camilleri M.A.	306

**Source:** own work

Regarding co-authorship by country, the criterion of ninety-two published papers and at least one citation was applied. The results revealed that out of 199 countries, only 19 met the criterion. Table 8 shows that the countries with the most published papers are Australia (274), Canada (222), and China (720). In contrast, the countries with the most citations are the United States (46,016), the United Kingdom (22,859), and China (16,309). This indicates that while China leads in the number of publications, the United States and the United Kingdom are leading in terms of the impact and recognition of their research in Environmental Social Responsibility.

**Table 8. Co-authorship by country**

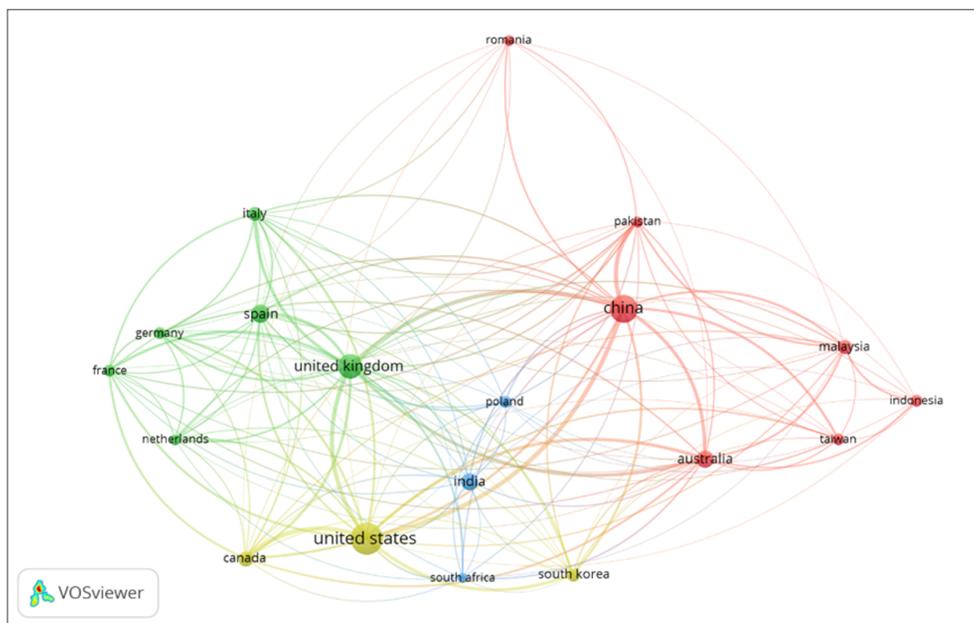
N°	COUNTRY	DOCUMENTS	COUNTRY	CITATIONS
1	Australia	274	United States	46016
2	Canada	222	United Kingdom	22859
3	China	720	China	16309
4	France	145	Spain	13888
5	Germany	145	Canada	13485
6	India	271	Australia	13352
7	Indonesia	129	Netherlands	7971
8	Italy	187	Italy	7580
9	Malaysia	190	Germany	7273
10	Netherlands	104	France	6121

**Source:** own work

The co-authorship mapping by country resulted in the formation of four clusters based on their collaboration patterns in Environmental Social Responsibility research:

1. **Red Cluster:** Comprises **Australia, China, Indonesia, Malaysia, Pakistan, Romania,** and **Taiwan.** This cluster reflects strong regional collaboration within Asia and some international ties with Australia and Romania.
2. **Green Cluster:** Includes **France, Germany, Italy, Netherlands, Spain,** and the **United Kingdom.** This cluster shows a strong European presence, highlighting collaboration across several major European countries.
3. **Blue Cluster:** Made up of **India, Poland,** and **South Africa.** These countries are more isolated in terms of co-authorship but contribute to global research in environmental responsibility.
4. **Yellow Cluster:** Comprises **Canada, South Korea,** and the **United States.** These countries show significant co-authorship and are notable for their leadership in research on environmental and social responsibility.

This mapping demonstrates distinct regional collaboration patterns, with each cluster focusing on different aspects of Environmental Social Responsibility and sharing research interests with varying global reach.



**Figure 1.** Map of co-authorship by country  
Source: own work

The analysis of word occurrences resulted in the formation of two distinct clusters based on the most frequent terms in the research related to Environmental Social Responsibility:

1. **Red Cluster:** This cluster includes terms related to **organizational and environmental aspects**, such as **Corporate Governance, Corporate Social Responsibility (CSR), Decision Making, Economic and Social Effects, Environment, Environmental Protection, Environmental Management, Stakeholder, Sustainability**, and **Sustainable Development**. These words reflect the focus on the corporate actions and environmental practices that contribute to responsible behavior and sustainability in organizations.
2. **Green Cluster:** This cluster comprises terms connected to **human behavior and social aspects**, such as **Adult, Education, Ethics, Female, Humans, Male, Perception, Social Behavior, Social Environment**, and **Social Responsibility**. These terms emphasize the social dimensions of environmental responsibility, particularly how individuals and societies perceive and interact with sustainability practices and ethical considerations.

The mapping of these clusters demonstrates the dual focus in Environmental Social Responsibility research: one on organizational governance and sustainability, and the other on social and ethical behavior, highlighting the interconnectedness between business actions and societal impact.

**Table 9.** Occurrence of all keywords

N°	KEYWORD	OCCURRENCES
1	Corporate Social Responsibility	2768
2	Social Responsibility	1179
3	Humans	736
4	Sustainability	692
5	Sustainable Development	673
6	Environment	380
7	Social Behavior	316
8	Female	244
9	Male	226
10	Ethics	209
11	Adult	197
12	Stakeholder	190

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N°	KEYWORD	OCCURRENCES
13	Environmental Management	187
14	Decision Making	185
15	Economic And Social Effects	169
16	Environmental Protection	161
17	Corporate Governance	154
18	Perception	144
19	Social Environment	142
20	Education	133

**Source:** own work

## 4. DISCUSSION AND CONCLUSIONS

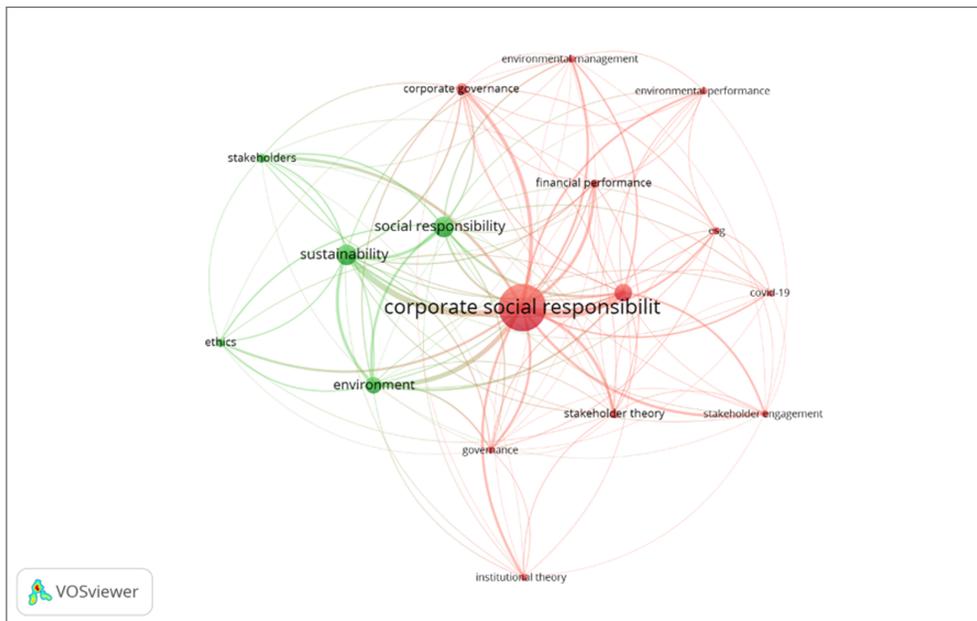
The analysis of the keywords by the author revealed the formation of two distinct clusters, each representing different aspects of Environmental Social Responsibility (ESR) and sustainability. The first cluster includes terms such as Corporate Governance, Corporate Social Responsibility (CSR), COVID-19, Environmental Management, Environmental Performance, ESG, Financial Performance, Governance, Institutional Theory, Stakeholder Engagement, Stakeholder Theory, and Sustainable Development. These words are primarily related to Green Policies, which are gaining global importance as legal instruments in several countries, such as Spain, Germany, and France [2], [15]. Green policies aim to transform industries toward more sustainable practices, ensuring efficient use of natural resources, minimizing pollution, and supporting clean production practices. These policies are also framed by the sustainable economic development goals, such as the 2030 agenda, and they have been implemented in different countries. For example, Mexico initiated an energy transition strategy in 2011, Costa Rica has promoted bioenergy strategies since 2017, Chile and Brazil have worked on energy efficiency and reducing greenhouse gases in agriculture, and Colombia is promoting sustainable buildings [40]. These green policies are essential to combat climate change, focusing on clean energy, sustainable tourism, and waste management.

The second cluster focuses on Environment, Ethics, Social Responsibility, Stakeholders, and Sustainability. These words are closely connected to Environmental Social Responsibility (ESR), which emphasizes corporate responsibility in addressing environmental issues through sustainable practices and technologies. ESR is about integrating sustainable development into business models by promoting ethical behavior, protecting natural resources, and considering social impacts. It encourages companies to implement quality standards and adopt environmental practices

beyond regulatory requirements, often motivated by certifications like ISO 14001, which recognizes companies for their Environmental Management Systems (EMS) [49]. Furthermore, ESR aligns with Sustainable Development Goals (SDGs) by contributing to societal welfare while ensuring ecological balance. Companies are urged to prioritize renewable energy use, manage solid waste, and market environmentally friendly products. CSR, from an ethical perspective, is evolving into a more social approach, balancing business and social interests to foster a sustainable future [39].

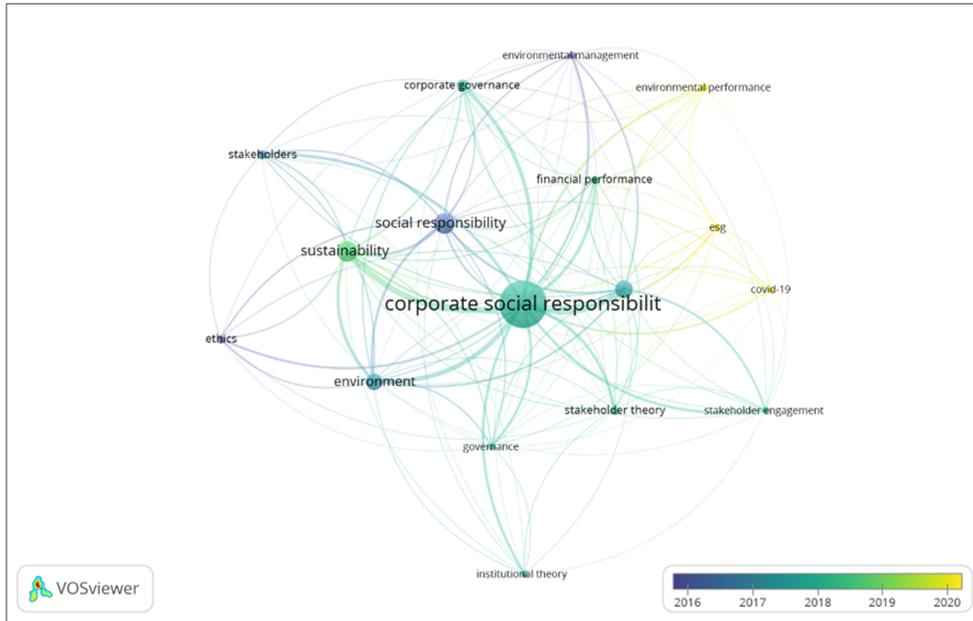
The analysis shows that the current trend in ESR research is shifting towards environmental performance, ESG (Environmental, Social, and Governance) factors, and the impact of COVID-19. Environmental performance is largely influenced by personal, social, and demographic factors, and the research indicates that greater societal awareness and pro-environmental policies are necessary to drive more sustainable behaviors. Environmental behaviors are expected to lead to long-term, environmentally friendly practices, reinforcing the need for policies that promote greater environmental consciousness and responsible corporate actions [50].

The analysis reveals a strong focus on Green Policies and Environmental Social Responsibility, with key themes of sustainability, ethics, and governance guiding the current research trends. These trends suggest that businesses are increasingly recognizing their role in promoting environmental stewardship while adapting to the evolving legal, social, and economic contexts aimed at sustainability.



**Figure 2.** Map of keyword occurrence by author

Source: own work



**Figure 3.** Overlay of keywords by author  
Source: own work

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