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**Sustainable Investment and Sustainable
Consumption: an empirical analysis**

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INDEX

Introduction.....	4
Chapter 1: Introduction to Sustainable Finance.....	6
1.1 Introduction to the chapter.....	6
1.2 Sustainable development.....	7
1.3 Sustainable and Responsible Investing (SRI).....	9
1.4 The Kyoto protocol and the Paris Agreement.....	12
1.5 CSR & ESG.....	14
1.6 The role of individuals and companies in achieving sustainability.....	19
1.7 Conclusion.....	24
Chapter 2: Regulations and Instruments of Sustainable Finance.....	26
2.1 Introduction to sustainable finance regulations.....	26
2.2 Sustainable Finance Action Plan and the EU scenario.....	26
2.3 The Green Deal.....	31
2.4 Definition of sustainable finance from the literature.....	32
2.5 The instruments of sustainable finance.....	34
2.5.1 Green Bonds.....	35
2.5.2 Green Loans.....	38
2.5.3 Social Bonds.....	39
2.5.4 Social Impact Bond.....	41
2.5.5 Sustainability-linked bond.....	41
2.5.6 Sustainable Funds.....	42
2.6 Conclusion.....	46
Chapter 3: The meaning of Greenwashing.....	48
3.1 The concept of greenwashing.....	48
3.2 Definition and history of greenwashing.....	49
3.3 Literature review.....	51
3.4 Greenwashing legislation.....	55
3.5 Examples of Greenwashing: from the companies to the funds.....	57
3.6 Conclusion.....	62

Chapter 4: Sustainable Consumption and Sustainable Consumer Behaviour.....	63
4.1 Introduction to sustainable consumption and sustainable consumer behaviour.....	63
4.2 Sustainable Consumption.....	63
4.3 Sustainable Consumer Behaviour.....	67
4.4 The drivers of Sustainable Consumer Behaviour.....	69
4.5 Sustainable consumption and Socially Responsible Investments.....	70
4.6 Conclusion.....	72
Chapter 5: Empirical Analysis: The relationship between Sustainable Consumption and Sustainable Investment.....	73
5.1 Introduction to the research.....	73
5.2 Empirical Analysis.....	74
5.3 Conclusion of hypotheses.....	91
Conclusion.....	93
Appendix I.....	95
References.....	109

INTRODUCTION

The demand for environmentally friendly and sustainable economic growth emerged in the early 1970s when society realised that the old development model would lead to the long-term collapse of the Earth's biosphere.

The introduction in the markets of sustainable investments has responded to the need for change by shifting the focus from mere profit to social and environmental gain.

This thesis aims to test if there is a link between sustainable consumption and sustainable investment decisions. More people are becoming aware of sustainability issues and trying to change their habits through a more sustainable lifestyle. Do people behave consistently when it comes to sustainable investments? Numerous studies have noted that most people claim to be very motivated and emotionally invested in the issue of sustainability. Still, in reality, they do very little and know even less about it.

The first chapter deals with the introduction of sustainable finance, focusing mainly on the Paris and Kyoto agreements, which are fundamental for developing regulations in sustainable finance. The origins and the growth of Sustainable and Responsible Investing (SRI) will be explained, and then discussed the 2030 Agenda for Sustainable Development and environmental, social, and governance (ESG) factors.

The second chapter will describe the rules on sustainable finance, explaining the Sustainable Finance Action Plan, which is fundamental for sustainable development.

In addition, it describes some of the tools of sustainable finance, such as Green and Social Bonds, Green Loans, Social Impact bonds, Sustainability-linked bonds and Sustainable Funds. Chapter two will reveal that the described regulations contrast with the greenwashing phenomenon that will be analysed in chapter three.

After a description of the phenomenon and the concept of the word "greenwashing", there will be a roadmap to understand how the phenomenon was born and its legislation.

Finally, some cases of greenwashing by companies known as Coca-Cola and Nestlé will be presented.

Chapter four analyses the link between Sustainable Consumption and Sustainable Consumer Behaviour. After analysing both terms, the relevant literature will be studied to see if there is a relationship between the two.

Also, the drivers of Sustainable Consumer Behaviour will be necessary to understand what makes consumers choose sustainable products and study if this propensity can also be seen for sustainable investments.

Most research on the subject shows a greater propensity of millennials towards sustainable investment. Studies also show that most consumers depend on sustainability but are unwilling to choose sustainable investments due to a lack of information and knowledge.

The last chapter will start with this latest concept. I will make an empirical analysis to see if the consumers interviewed align with what has been found.

CHAPTER 1

INTRODUCTION TO SUSTAINABLE FINANCE

1.1 Introduction to the chapter

The demand for environmentally friendly and sustainable economic growth emerged in the early 1970s when society realised that the old development model would lead to the long-term collapse of the Earth's biosphere. Over the years, the worldwide community's environmental initiatives, particularly the Paris Climate Agreement, have demonstrated that the planet's boundaries are real. As a result, the new development model is built on respect for the future, in a nutshell, the notion of "sustainable".

This first chapter introduces sustainable finance and is organised into four sections.

The first part defines sustainable development by describing its three main pillars: economic, environmental, and social. The second section outlines the origins and expansion of Sustainable and Responsible Investing (SRI) before delving more into sustainable finance. Furthermore, the notion of Agenda 2030 will be examined in this section.

The Kyoto Protocol and the Paris Agreement are discussed in the next section. This section will outline all the steps that led to the creation of the Paris Agreement, one of the foundations of sustainable finance history.

The third section builds on the preceding sections' concepts, such as the 2030 Agenda for Sustainable Development, the SDGs, and the Paris Agreements, to define Corporate Social Responsibility (CSR) and Environmental, Social, and Governance (ESG).

The fourth and last section attempts to comprehend how the Paris agreement and subsequent regulations have impacted entities such as companies and individuals. The Global Reporting Initiative (GRI) standards and the Principles for Responsible Investment (PRI) will be examined in this section.

1.2 Sustainable development

The concept of sustainable growth is complex and open to many interpretations. Still, the most widely accepted definition dates back to 1987. It can be found in the so-called Brundtland Report¹, titled “Our Common Future”, which concentrates on the fundamentals of intergenerational and intragenerational equity.

A quote from Mrs Gro Harlem Brundtland, Former Norwegian Prime Minister (1987), defines sustainability as “meeting our own needs without compromising the ability of future generations to meet their own needs.” Thus, we must combine the requirements of economic competition with the need for environmental protection.

Furthermore, sustainability means continuing and increasing well-being (environmental, social, and economic) and the potential to leave future generations with a standard of living comparable to the current one. However, it should be remembered that sustainability is a dynamic notion, as the ecological system may be changed by the technological situation, which, by altering, can ease some restrictions, such as the use of energy sources.

The notion of sustainable development was called after the Brundtland report, which defined human resource development in reducing extreme poverty, global gender equity, and economic redistribution. This report discussed climate change, economic development, and global goals that need to be implemented to attain sustainable development.

Sustainable development is founded on three key pillars: economic, environmental and social. Economic sustainability is the foundation of long-term growth. It is described as an economic system’s potential to create long-term growth in economic indices—specifically, the ability to provide revenue and employment for the survival of populations. Economic sustainability within a territorial system refers to developing and preserving the most significant amount of added value within the territory by successfully integrating resources to increase the peculiarity of local products and services.

The term “environmental sustainability” relates to the biophysical characteristics of the Earth and how its resources are used. The paradigm of sustainable development includes environmental sustainability.

The main goal of environmental sustainability is to protect the planet’s resources. This point can be reached in various ways, including adopting sustainable and renewable energy sources

¹ “Report of the World Commission on Environment and Development: Our Common Future.”, 1987, <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>, accessed 23 October 2022.

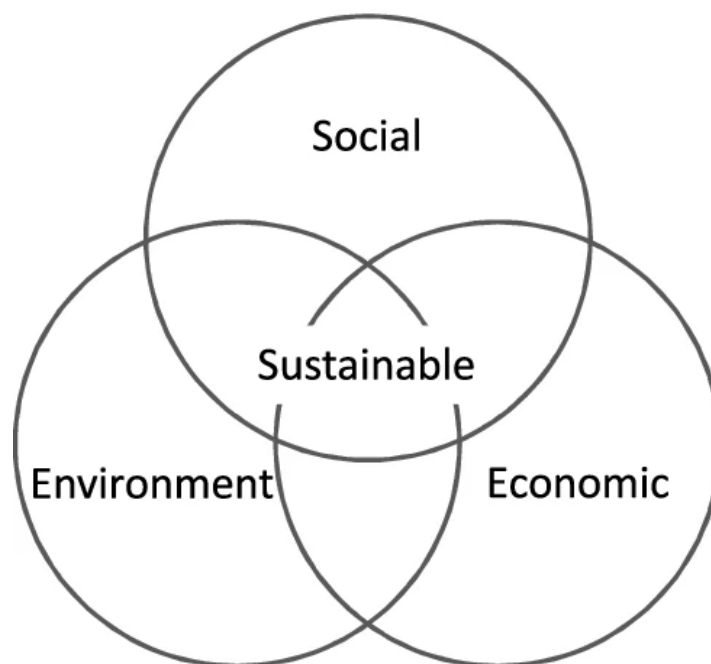
before abandoning fossil fuels, allowing everyone to have equal opportunities before allowing equality, and respecting the ecosystem's resources by developing sustainable communities based on environmental and social criteria.²

Social sustainability refers to a collection of actions aimed at promoting social equality. Social sustainability entails a wide range of legal, economic, and cultural measures to achieve that goal. In general, social sustainability is accomplished by abolishing poverty and attaining fundamental human dignity for everyone. It entails the elimination of benefit disparities between a country's socioeconomic classes and the world's various populations.

Sustainability is to be seen as a continual process rather than as a state or an unchangeable ideal, which underlines the necessity to combine the three main components. These elements, however, are interrelated and cannot be studied separately. There can be no sustainable development if one of the three components is overlooked while developing a plan.

A graphic can be used to depict the three pillars of sustainable development to provide a better understanding of how they can only be realised when environmental preservation, social equality, and economic profitability coexist without one taking precedence over the others.

Figure 1: Three pillars of sustainability



Source: Ben Purvis, Yong Mao & Darren Robinson, 2018, Three pillars of sustainability: in search of conceptual origins, <https://link.springer.com/article/10.1007/s11625-018-0627-5/figures/1>.

² "Corporate Economic, Environmental, and Social Sustainability Performance Transformation through ESG Disclosure.", MDPI, 2020, <https://www.mdpi.com/2071-1050/11/15/4004>, accessed 23 October 2022.

1.3 Sustainable and Responsible Investing (SRI)

Before delving into the definition of sustainable finance, it is worth tracing its origins and the growth of Sustainable and Responsible Investing (SRI). The origins of responsible investment can be traced back to the colonial era in the United States when several religious organisations refused to invest their endowment funds in the slave trade. However, it was in the twentieth century that SRI emerged as a distinct investment philosophy. The Pioneer Group was the first mutual fund to filter out tobacco, alcohol, and gambling investments in 1921. It was primarily driven by the demands of large university endowments and faith-based institutions looking to avoid investing in companies exposed to controversial industries – the so-called “sin stocks”. The term refers to gambling, alcohol, tobacco, and weaponry firms. Sin stocks are classified as defensive stocks, which means they perform well even during economic downturns.

SRI gained a voice in the civil rights, environmental, social, and anti-war movements in the 1960s. In the 1970s, environmental awareness grew, and the first funds focusing on concerns other than classic “sin” screening were established. South Africa’s campaign against apartheid launched the first funds that screened out companies conducting business in a specific country. By the mid-1990s, there were about 60 SRI mutual funds, with around \$640 billion in SRI assets under management.³

In 1989, investors, company leaders, and activists established the Coalition of Environmentally Responsible Economies (CERES) to raise consciousness about the effects of businesses on the environment and society, as well as to address global issues such as climate change, pollution, natural resource waste, and unfair working conditions.

The first conference on sustainable and responsible finance, initially titled “SRI in the Rockies”⁴ was held in the United States in 1990, aiming to allocate more sustainable capital. Many ethical funds were established between the 1980s and the 2000s, including the Friends Provident Stewardship Fund in the United Kingdom in 1984⁴ and the “Sanpaolo Azionario Internazionale Etico” in Italy in 1997. The Dow Jones Sustainability Index (DJSI), the first global SRI stock index, was launched in 1999. Several international institutions supported the growth of sustainable and responsible investing in the 2000s. In 2005, the then-United Nations Secretary-General, Kofi Annan, invited the world’s most prominent investors to establish

³ “2005 Report on Socially Responsible Investing Trends in the United States”, Social Investment Forum, 2005, https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/report-social-investment_0.pdf, accessed 17 August 2022.

⁴ “Early Stewardship”, sri services, <https://www.sriservices.co.uk/about-sri/stewardship-fund/from-humble-beginnings/>, accessed 23 October 2022.

principles for investing their capital responsibly and sustainably. As a result, the six United Nations Principles for Responsible Investment (UN PRI)⁵ were officially launched in 2006 at the New York Stock Exchange. The United Nations aided in the transition to sustainable finance by developing the 2030 Agenda for Sustainable Development.

The 2030 Agenda for Sustainable Development is a plan of action for people, the planet, and prosperity agreed on 25 September 2015 by the United Nations General Assembly, which includes the governments of the 193 member nations. Its primary goal is reflected by 17 Sustainable Development Goals (SDGs), which are part of a comprehensive action plan with 169 goals.⁶ The road to reaching the SDGs was formally established in early 2016 to chart global change over the following 15 years. Countries will achieve these goals by 2030, following a defined path for each of the 17 SDGs.

The 2030 Agenda also marks the completion of a long UN negotiating process on sustainable development, which began in 1987 with the publishing of the Brundtland mentioned above Report. The United Nations Conference on Sustainable Development in 2012, which endorsed the document “The Future We Want”⁷, began negotiations to define the 2030 Agenda and the SDGs. In detail, the born of the 2030 Agenda in 2015 can be traced back to 1972, when governments gathered in Stockholm, Sweden, for the United Nations Conference on the Human Environment to discuss the rights of the family in a healthy and productive environment. The first Earth Summit (UNCED) was held in Rio de Janeiro in 1992, during which the first environmental and development programme, commonly known as Agenda 21⁸, was developed and accepted. The twenty-year follow-up will occur at the United Nations Conference on Sustainable Development, often known as Rio +20, in 2012. And it is precisely at a preparatory gathering for this session, Colombia proposes the SDGs for the first time.

The SDGs are a set of interconnected objectives aimed at addressing a wide range of economic and social development issues, such as poverty, hunger, the right to health and education, access to water and energy, employment, inclusive and sustainable economic growth, climate change and environmental protection, urban development, production and consumption patterns, social

⁵ “The United Nations Principles for Responsible Investment (UN PRI).”, Schroers, <https://www.schroders.com/sv/sustainability/corporate-responsibility/sustainability/un-pri/>, accessed 23 October 2022.

⁶ “Transforming Our World. The 2030 Agenda For Sustainable Development.”, United Nations, [https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Dev
elopment%20web.pdf](https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf), accessed 18 September 2022.

⁷ “The Future We Want. Outcome document of the United Nations Conference on Sustainable Development.”, 2012, United Nations, <https://sustainabledevelopment.un.org/content/documents/733FutureWeWant.pdf>, accessed 18 September 2022.

⁸ “Agenda 21.”, 1992, United Nations Conference on Environment & Development Rio de Janeiro, <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>, accessed 18 September 2022.

and gender equality, justice, and peace. Each country is reviewed at the UN annually through the High-level Political Forum (HLPF), which is tasked with reviewing progress, outcomes, and difficulties for all nations, as well as national and international public opinion.

The Member States produce optional reports on the 2030 Agenda's implementation. Spain's and Mexico's programs are both interesting to analyse.

Spain authorises the Minimum Living Income, a raise in the minimum working salary, and help for students with special educational needs in its battle against poverty, injustice, and social isolation. Furthermore, the project involves the execution of the Climate Change and Energy Transition Bill, which establishes a national goal of reducing greenhouse gas emissions by at least 20% by 2030 compared to 1990 levels.⁹

On the other hand, Mexico is developing a new general water law that includes social protection for female domestic and farm workers and the integration of biodiversity conservation projects that include productive activities for the country's most disadvantaged communities.

The objectives of the 2030 Agenda are illustrated below.

Figure 2: The 17 Sustainable Development Goals.



Source: United Nations Regional Information Centre, The 2030 Agenda for Sustainable Development, <https://unric.org/it/agenda-2030/>.

⁹ "EU achieves 20-20-20 climate targets, 55 % emissions cut by 2030 reachable with more efforts and policies.", European Environment Agency, <https://www.eea.europa.eu/highlights/eu-achieves-20-20-20>, accessed 18 September 2022.

Sustainable finance is one of the many applications of sustainable development. It is a practice that aims to create long-term value by directing capital toward operations that not only generate economic added value but are also beneficial to society and do not exceed the maximum capacity of the environmental system. This distinguishes it from merely financial transactions.

1.4 The Kyoto protocol and the Paris Agreement

The Kyoto Protocol, signed in 1997, was a watershed moment in sustainable development. As initially envisaged, the Rio Agreement cited in the previous paragraph did not impose mandatory restrictions on greenhouse gas emissions in individual nations. It did, however, contain the option for signing nations to adopt further acts known as “protocols” that would impose mandatory emission limitations at appropriate conferences.

The Kyoto Protocol was signed on 11 November 1997, during the Kyoto Conference, although it did not enter into force until 16 February 2005 because of Russia’s ratification. In fact, for the treaty to enter into force, it needed to be ratified by at least 55 countries, with these countries together accounting for no less than 55% of worldwide greenhouse gas emissions, and Russia was the 55th country.¹⁰

The Kyoto Protocol is divided into two phases, the first lasting four years, from 2008 to 2012, and the second, which began after Russia’s acceptance, will continue an additional eight years, until 2020. The primary goal is to minimise greenhouse gases such as carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride, with applications primarily in industry, waste management, energy, and agriculture.¹¹

The subsequent Conference of the Parties is worth mentioning for defining “post-Kyoto” objectives. The Copenhagen Conference (December 15, 2009) was a massive letdown because no agreement was reached. Even the Cancun Conference (16 December 2010) failed to develop a concerted effort among country states to tackle climate change, as did the Durban Conference (17 December 2011) and the Doha Cop 18. At the 21st meeting of the Conference of the Parties (Cop 21) of the Convention on Climate Change, held in Paris in December 2015, 195 states participated in creating the Paris Agreement.¹²

¹⁰ “Kyoto Protocol To The United Nations Framework Convention On Climate Change.”, 1998, United Nations, <https://unfccc.int/resource/docs/convkp/kpeng.pdf>, accessed 14 November 2022.

¹¹ “Environmental signals 2000. Climate change.”, 2016, European Environment Agency, <https://www.eea.europa.eu/publications/signals-2000/page009.html>, accessed 14 November 2022.

¹² “Paris Agreement.”, 2015, United Nations Framework Convention on Climate Change, United Nations, https://unfccc.int/sites/default/files/english_paris_agreement.pdf, accessed 5 September 2022.

The Paris Agreement is a watershed moment: for the first time, an international treaty on climate change has been put on paper, making global collaboration the foundation of its success.

On 12 December 2015, 197 States Parties to the United Nations Framework Convention on Climate Change (UNFCCC) ratified the Paris Agreement, the first global and legally enforceable agreement on climate change.

According to the current accord, the new agreement will enter into force when approved by at least 55 nations contributing at least 55% of total world greenhouse gas emissions. This was accomplished on 4 November 2016, following the EU's official ratification on 5 October 2016. All EU member states have ratified the agreement. The Paris Agreement's long-term goal is to keep the increase in global average temperature far below the 2 °C threshold over pre-industrial levels and to keep it to 1.5 °C, which would significantly minimise the risks and consequences of climate change. It also seeks to drive corporate, and public funding flows toward low-carbon development and to strengthen the capacity to adapt to climate change.

The Paris Agreement has a five-year cycle. Countries must submit their climate action plans, known as Nationally Determined Contributions (NDCs), to meet the agreement's objectives. Furthermore, nations participating in these contributions indicate the actions they aim to do to build resilience and adapt to the consequences of rising temperatures.

The first primary goal is to create 56 billion tons of carbon dioxide worldwide by 2030, rather than the 69 billion tons required to maintain present growth rates. The United States is the greatest emitter, followed by China, and the Obama administration pledged to lower emissions by 26-28% compared to 2005, with 2025 as the ultimate date for accomplishing this goal.¹³

Under the Paris Agreement, the European Union committed to achieving three goals by 2030: reducing greenhouse gas emissions by at least 40% compared to 1990 levels, increasing the share of energy consumption satisfied by renewable sources to at least 32%, and improving energy efficiency by at least 32.5%.¹⁴

The Katowice package, approved at the UN climate conference (COP24) in December 2018, includes standard rules, processes, and recommendations for implementing the Paris Agreement. It covers all significant aspects, including transparency, financing, and mitigation.

¹³ "The United States and China have ratified the climate agreement", *il Post*, 2016, <https://www.ilpost.it/2016/09/03/stati-uniti-e-cina-hanno-ratificato-laccordo-sul-clima/>, accessed 5 September 2022.

¹⁴ "The European Union and sustainable finance: impacts and outlook for the Italian market", *Forum per la Finanza sostenibile*, 2019, https://finanzasostenibile.it/wp-content/uploads/2019/11/Manuale-Europa_ENG-WEB.pdf, accessed 5 September 2022.

It allows flexibility to Parties that require it due to capacity constraints while enabling them to execute and report on their commitments in a transparent, comparable, and consistent manner. The Katowice Agreement is a package containing operational guidance on topics such as how to communicate about efforts to adapt to climate impacts and the rules for the Transparency Framework.¹⁵ This will show the world what countries are doing about climate change, establishing a committee to facilitate the implementation of the Paris Agreement and promoting compliance with the Agreement's obligations. It also demonstrates how to monitor technological development and transfer success, how to offer advanced information on financial assistance to developing countries, and the process for creating new financial objectives beginning in 2025.

1.5 CSR & ESG

The reference points of the environmental, social, and governance logic may be found in three significant periods in the history of sustainability: the 2030 Agenda for Sustainable Development, the SDGs, and the Paris Agreements.

The essential themes of these three historical events are motivating concepts and approaches to sustainability in organisations and enterprises.

The financial sector has recently prioritised the transition to a sustainable economic development model. Since it was first suggested in 2004, the ESG concept has been extensively applied in Europe, America, and other industrialised countries.

Incorporating environmental, social, and governance issues (ESG) has become a more significant factor in the investment & issuance process, supporting innovation and growth of sustainable finance, which involves applying sustainability to financial activities.

Over the years, various methods have been proposed to explain the relationship between financing and sustainability; these include increasing environmental, social, and corporate governance (ESG) criteria in the investment decision-making process, the impact of investments and socially responsible investment methods (SRI), the concern for climate change, human rights, and the assessment of the impact of funding in terms of negative externalities. The inclusion of ESG into corporate management, financial decision-making, and investor portfolio decisions is called corporate social responsibility (CSR). Socially responsible

¹⁵ "The Katowice climate package: Making The Paris Agreement Work For All.", UNFCCC, <https://unfccc.int/process-and-meetings/the-paris-agreement/katowice-climate-package>, accessed 6 September 2022.

companies must internalise the externalities (for example, pollution), and they should be held accountable by their shareholders.

The terms “CSR” and “ESG” are used interchangeably. In particular, the environmental component (E) assesses a company’s influence on the natural ecosystem. This covers emissions, effective use of natural resources in manufacturing, pollution and waste, and innovative initiatives to eco-design its products. The social dimension (S) addresses a company’s interactions with its employees, customers, and society. Some examples include attempts to keep employees loyal, customers satisfied, and to be good citizens within the communities in which it operates. In the context of CSR, the governance component (G) has a distinct meaning since it relates to traditional governance systems that force management to behave in the best interests of its long-term shareholders. This involves protecting shareholders’ interests and ensuring a well-functioning board. However, in the context of ESG, governance is frequently associated with respect for diversity & inclusion, hence the representation of minority rights within management and management boards.

SRI and ESG accomplish different functions. SRI employs finance and investing operations in conveying institutional values and enhancing the institution’s goal. On the other hand, ESG investment seeks to increase investment performance, giving more resources for mission support.

ESG characteristics are derived from a prior technique introduced in the 1990s, notably the notion of the “Triple bottom line,” commonly known as “PPP” (Planet, People, Profit). It was coined in 1997 by the English sociologist and economist John Elkington.¹⁶

According to this notion, a company’s job in carrying out its activities includes producing profit and focusing on policies to improve environmental and social circumstances. This theory’s objective was to encourage corporations to function in the economic context of reference through strategies and actions that might use the environment (planet), the social context (people), and the economic-financial element (profit) all at the same time. In a capitalist economy, a company’s success is determined by its financial performance or the profit it makes for its stockholders. It is critical to distinguish between an enterprise’s shareholders and stakeholders. Companies have traditionally prioritised shareholder value as a sign of success because they try to generate value for people who own shares in the company. As businesses adopted sustainability, they focused on providing value for all stakeholders affected by their actions, including customers, employees, and community members. The third component of the

¹⁶ “Enter the Triple Bottom Line”, 1997, John Elkington, <https://www.johnelkington.com/archive/TBL-elkington-chapter.pdf>, accessed 6 September 2022.

triple bottom line has a beneficial environmental impact. Large corporations have made significant environmental contributions since the industrial revolution, which has been a crucial element in climate change.

Corporate Social Responsibility has been a trending topic in recent years, both in Europe as well as around the world. The concept of Corporate Social Responsibility began to take shape. It spread in the early 1950s, when it became clear that the company's operations had a direct impact on the surrounding environment, individuals, and community, in addition to the internal organisation. Howard R. Bowen was the first to establish the concept of Corporate Social Responsibility, which was coined in 1953¹⁷. According to Bowen, the firm's operations have the potential to influence the life of the entire organisation, with the emphasis being on the businessman's social responsibility. He has not just economic obligations, such as profit, productive growth, or the distribution of assets, but also social obligations, which directly influence the environment.

Benjamin M. Selekman, a sociologist, revised Bowen's notion of the businessman's social responsibility in 1959. He defined "Social Responsibility of Business" as a movement that, through voluntary acts, may lead the business organisation to be both economically productive as well as ethical and moral.¹⁸ The debate on Social Responsibility initially focuses on the responsibility of the businessman, who has attributed the ability to affect the surrounding environment through their own decisions and business strategies, but not yet on the responsibility of the company, which only acts in the background. Following that, the expression "Corporate Social Responsibility" was finally formed in 1960. The firm must execute procedures and activities that go beyond the organisation's economic objective, consequently providing advantages for stakeholders, workers, and communities. CSR is a notion that has grown in popularity over the years and is becoming more concrete. William C. Frederick provides a more extensive description, saying that individual enterprise activity must be seen as a means of creating well-being not just in the economic sector but also in the social sphere.¹⁹ The primary goal of a sustainable firm is to respect the human resources who work and interact with the organisation while not negatively impacting the surrounding environment. In 1967 Clarence C. Walton defined CSR as "the new concept of social responsibility

¹⁷ "Social Responsibilities of the Businessman.", 1953, Howard R. Bowen, <https://www.jstor.org/stable/j.ctt20q1w8f>, accessed 15 November 2022.

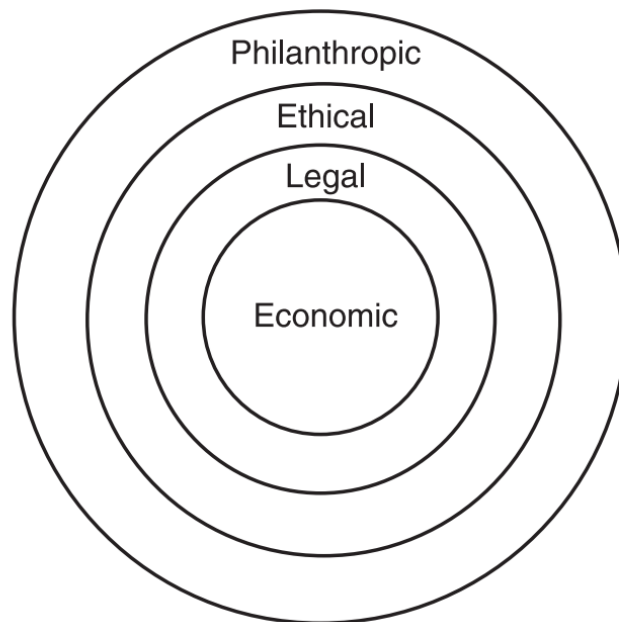
¹⁸ "A moral philosophy for management.", 1959, Benjamin M. Selekman, <https://doi.org/10.1086/258332>, accessed 14 November 2022.

¹⁹ "The growing concern over business responsibility.", 1960, William C. Frederick, <https://doi.org/10.2307/4116540>, accessed 14 November 2022.

recognises the closeness of the relationship between the firm and society”.²⁰ This notion gives rise to a new characteristic of CSR: the fact that it is volunteering. As a result, social responsibility must be viewed as a voluntary activity undertaken by the corporation rather than as a result of external force. In the same year, a group of entrepreneurs and trainers made significant contributions to the definition of CSR, demonstrating for the first time the link between society and the surrounding environment.

The Committee for Economic Development (CED) created a model of three concentric rings to demonstrate this connection. The inner circle symbolises the obligations required for the proper performance of economic operations, such as production, development, and economic growth. The responsibilities described previously are included in the intermediate circle, which also considers societal values and necessities. The outermost ring depicts a firm’s efforts to strengthen its societal responsibility, such as alleviating poverty and cultural deterioration.

Figure 3: The Concentric Circles Model of CSR



Source: Aviva Geva, 2008, Three Models of Corporate Social Responsibility: Interrelationships between Theory, Research, and Practice, <https://doi.org/10.1111/j.1467-8594.2008.00311.x>.

In this framework, Archie B. Carroll proposed a new definition of CSR as a set of diverse obligations expressed through a pyramid of four levels: economic, legal, ethical, and philanthropic.²¹ Economic responsibility is situated at the bottom of the pyramid to stress the

²⁰ “Corporate social responsibilities.”, 1967, Clarence Cyril Walton, https://openlibrary.org/books/OL5534781M/Corporate_social_responsibilities, accessed 14 November 2022.

²¹ “The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders.”, Archie B Carroll, 1991, 10.1016/0007-6813(91)90005-G, accessed 14 November 2022.

importance the economic sector places on others by manufacturing goods and generating profits. The following level is associated with legal liability, demonstrated by the company's compliance with laws and legal requirements. The third level identifies ethical responsibility, which refers to non-legislated behaviours and norms businesses must establish and follow to satisfy society. The philanthropic obligation at the pyramid's summit is identifiable with voluntary activities carried out by the firm in favour of society, encompassing all actions that improve the quality of life and promote the welfare of the community. The essential feature of this model is totality, in the sense that a corporation that intends to be socially responsible must carry out the four obligations in a complementary and simultaneous way.

Figure 4: The Pyramid Model of CSR



Source: Aviva Geva, 2008, Three Models of Corporate Social Responsibility: Interrelationships between Theory, Research, and Practice, <https://doi.org/10.1111/j.1467-8594.2008.00311.x>.

CSR is thus a voluntary contribution of businesses to society in which economic growth, environmental protection, and human capital enhancement form a balanced and integrated totality.

1.6 The role of individuals and companies in achieving sustainability

An aspect to consider is how the Paris agreement and subsequent regulations influenced various institutions, such as companies and individuals.

From paragraph 1.1, it can be seen that individuals have always had an instinct towards sustainability, even before the advent of legislation, as evidenced by the fact that the earliest knowledge of sustainable matters dates back to the United States' colonial era. This has since evolved, resulting in enhanced awareness over the decades. The term "sustainable" now has a new meaning and value. Some examples include the rising use of smart work, which results in a steady reduction in pollution rates, particularly in large cities.

Furthermore, young people have a vital part in sustainable development, and they are becoming more aware of their choices on a daily basis, such as clothing and food, and on a financial level. An analysis by EY²² indicates that demand for sustainable investments is now partially driven by millennials who wish to invest in approaches that correspond with their own beliefs; as a result, fund managers are using more resources to develop products and attract this rapidly growing client category.

Furthermore, compared to non-millennial investors, millennials tend to incorporate sustainability into investment decisions and consumer behaviour, according to a Morgan Stanley study from 2017²³. The Morgan Stanley study found that nine out of ten millennials (86%) are interested in sustainable investment. This is much higher than the proportion of individual investors (75%). Furthermore, 17% of millennials say they want to invest in firms that apply high-quality ESG practices, compared to 9% of non-millennials.

Millennials now have instant access to information regarding global issues such as climate change, world hunger, poverty, and access to health care, resulting in a greater awareness of global responsibility and boosting demand for sustainable investments.

According to a UBS Investor Watch survey, of 13 of 3,800 investors in 15 markets, over 60% are more interested in sustainable investing than before the Covid-19 pandemic. Furthermore, Millennials boosted the rise of sustainable investments in 2010: in the US alone, investors

²² "Sustainable investing: the millennial investor.", EY, 2017, https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/financial-services/ey-sustainable-investing-the-millennial-investor.pdf, accessed 21 August 2022.

²³ "Sustainable Signals. New Data from the Individual Investor, 2017" Morgan Stanley, Institute for Sustainable Investing, https://www.morganstanley.com/pub/content/dam/msdotcom/ideas/sustainable-signals/pdf/Sustainable_Signals_Whitepaper.pdf, accessed 21 August 2022.

contributed \$ 51.1 billion in sustainable funds by 2020, compared to less than \$5 billion in the previous decade.²⁴

Additionally, concerns about climate change, according to a CNBC poll, are a significant factor in the industry's development. According to the report, over one-third of millennial countries utilise ESG-factor investments on a regular or exclusive basis, compared to 16% of Gen X (born between 1995 and 1980) and 2% of Baby Boomers (born between 1946 and 1964)²⁵.

The growing awareness of the need for sustainable and responsible investments has accelerated the supply of such products, particularly among companies that have altered their business strategies and financing methods. With increased interest in sustainability, the role of business in sustainable development is becoming clearer. As companies worldwide become more aware of sustainability standards, new standards have emerged that allow a diverse range of stakeholders to evaluate and compare sustainability reports. The Global Reporting Initiative Standards are the most widely used framework, which is related to other types of non-financial reporting, such as triple-bottom-line reporting and corporate social responsibility (CSR) reporting, which were discussed in the preceding paragraph.

The first edition of the Global Reporting Initiative's guidelines was published in 2000 (GRI). Using a standard structure and vocabulary, GRI Standards assist businesses, governments, and other entities in measuring and communicating their significant effect on social, environmental, and economic sustainability concerns.

The primary goal of the GRI Standards is to maintain disclosure of risks and possibilities provided by activities. At the same time, the GRI's goal is to push for progressive change and have a tangible impact on companies' social welfare while focusing on prospects for better work for employees. The European Union has an obligation to ensure that the European Union is more sustainable for the world and that all forms of exploitation are abolished all at once.

GRI Standards have an integrated and modular framework, allowing them to be easily upgraded without establishing interdependencies that the inclusion or removal of new rules can undermine.

GRI embraced the transition to mandatory sustainability reporting requirements from its foundation more than 20 years ago while freely offering the sustainability standards that are widely and increasingly adopted by companies on a voluntary basis.

²⁴ "The new valuables.", UBS Investor Watch, 2021, <https://www.ubs.com/global/en/wealth-management/our-approach/investor-watch/2021/the-new-valuables.html>, accessed 21 August 2022.

²⁵ "Millennial and Gen Z Investors Grow to Embrace ESG Issues", Impactivate, 2021, <https://www.theimpactivate.com/millennial-and-gen-z-investors-grow-to-embrace-esg-issues/>, accessed 21 August 2022.

Three sets of conceptual criteria cover the following:²⁶

- Economics (GRI 200)
- Environment (GRI 300)
- Social (GRI 400)

The 101 GRI Foundation is the starting point for a GRI report. This article covers how to produce a report and the key concepts that influence it, such as inclusion, stakeholder involvement, sustainable context, and accuracy, as well as its quality, which is dependent on correctness, balance, clarity, comparability, dependability, and timeliness.

GRI 101 outlines the essential concepts for determining report content and quality and how to prepare a report following GRI standards. The GRI 101 principles can be used to identify parts of the organisation that substantially influence stakeholders.

GRI 102, instead, provides information on the organisation's background and reporting processes. This information contains the organisation's profile, strategy, ethics, integrity, governance, stakeholder involvement, and reporting procedure.

In contrast, the GRI 103 effectively reports how the organisation controls material issues. Specific standards (GRI 200, 300, and 400) can be implemented after severe environmental problems have been found.

The three series GRI 200, 300, and 400, provide many criteria that may be utilised to report the Organization's impacts on economic, environmental, and social concerns.

The revised GRI guidelines were announced on 5 October 2021 and will go into effect on 1 January 2023. The independent GRI standard-setting body, the Global Sustainability Standards Board (GSSB), launched a multi-stakeholder consultation process in 2019 to modify the current GRI Universal Standards to improve the way organisations apply them to communicate their impacts on the economy, the environment, and people, and thus enhance the quality and consistency of sustainability reporting. The new Universal Standard GRI is now known as:²⁷

- GRI 1: 2021 Foundation
- GRI 2: 2021 General Disclosure
- GRI 3: 2021 Material Topics

One of the most significant developments in GRI 1 is creating a single technique for preparing GRI Reporting, which allows compliance with the information's nine standards and eliminates

²⁶ "The GRI Standards: the global standards for sustainability reporting.", GRI, https://www.globalreporting.org/standards/media/2458/gri_standards_brochure.pdf, accessed 16 September 2022.

²⁷ "A Short Introduction to the GRI Standards.", GRI Standards, <https://www.globalreporting.org/media/wtafl4tw/a-short-introduction-to-the-gri-standards.pdf>, accessed 16 September 2022.

the prior division between Core and Comprehensive. Suppose an institution cannot meet all nine essential standards. In that case, it may nevertheless declare that it uses the GRI Standard as a reference framework and offer the extra information indicated in the statement. Among the other GRI 1 revision, the introduction of the essential principles underlying the definition of the sustainability reporting process, namely Impact, Material Issues and Stakeholders, should be noted.

The key novelty in GR2 is the addition of a new disclosure on commitments for responsible business behaviour - including respect for human rights and due diligence - and how these commitments are implemented into the organisation's operations.

The critical innovation in GRI 3 is reworking the materiality analysis technique, which includes the notion of due diligence. The new information also serves as an accurate guide for the organisation in defining material concerns. It consists of three pieces of information that describe how the company decides, defines, and handles each of these difficulties.

In conclusion, at the beginning of 2023, there will be no distinction between adopting standards in core (basic) or comprehensive (advanced) mode. Thus, *GRI Standards* will be used when an organisation meets all nine mandatory requirements of the standard, providing a clear and comprehensive view of the significant economic, environmental, and social impacts, including human rights, and explaining how it manages these impacts, allowing readers to make appropriate assessments and make more informed decisions. When an organisation cannot achieve the criteria of the GRI standard or wishes to report just specified information, the phrase *with reference to GRI standards* shall be used instead.

The GRI has grown over time by expanding the network of people and organisations involved in its activities and making increasingly complete documents available. This has resulted in the GRI social reporting system becoming one of the most widely used worldwide.

In Italy, reporting on economic, environmental, and social aspects is no longer a discretionary procedure of transparency: as of 1 January 2017, all public-interest entities with more than 500 employees are required by law to prepare a non-financial statement, according to the Legislative Decree no. 254 of 30 December 2016, transposing Directive 2014/95/EU.²⁸

The GRI standards are still the most used and internationally acknowledged international rules that may be utilised for non-financial reporting and communicating to stakeholders the

²⁸ “Directive 2014/95/Eu Of The European Parliament And Of The Council”, 2014, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0095>, accessed 16 September 2022.

Organization's goals and sustainability results. In a 2016 survey of Canadian investors²⁹, DFIN and SimpleLogic discovered that 100% of investors considered one or all three elements of ESG when assessing risk and deciding whether to invest in a company. Integrated reporting assists investors in understanding the importance of ESG concerns and connecting them to business success through standard valuation and reporting practices, which are managed by a system that can gather all this data in one location.

The problem for corporations is determining what to disclose and how to provide it in a context that explains dangers while highlighting business potential. This has resulted in the developing several reporting standards, including the Principles for Responsible Investing, which has over 1,800 adherents.

The United Nations created the Principles for Responsible Investment (PRI) in 2006 to encourage sustainable and responsible investment among institutional investors.

As an independent organisation, PRI encourages investors to adopt responsible investing to better manage risk and maximise profits while interacting with global policymakers. The six principles establish an obligation to behave in the long-term interests of its beneficiaries while also considering Environmental, Social, and Governance factors that can substantially influence portfolio performance.

PRIs are as follows:³⁰

1. Incorporate environmental, social and governance (ESG) parameters into financial analysis and investment decision-making processes.
2. Be active shareholders and incorporate ESG parameters in shareholding policies and practices.
3. Require reporting on ESG parameters by investment firms.
4. Promote the acceptance and implementation of the principles in the financial industry.
5. Cooperate to improve the application of the principles.
6. Report regularly on the activities and progress in applying the principles.

The premise that environmental, social, and corporate governance concerns may impact risk and return, and hence the performance of investment portfolios, is the starting point for all six principles.

²⁹ "2016 Canadian investor survey. New insights into what investors want from disclosure.", 2016, <http://www.simple-logic.com/wp-content/uploads/2016/06/2016-Canadian-investor-study.June2-2016.pdf>, accessed 16 September 2022.

³⁰ "What are the Principles for Responsible Investment?", PRI Principles for Responsible Investment, <https://www.unpri.org/about-us/what-are-the-principles-for-responsible-investment>, accessed 5 September 2022.

Furthermore, beneficiaries and consumers increasingly demand greater openness regarding how and where their funds are spent. Younger generations, such as Millennials, are particularly sensitive to sustainability concerns.

Responsible investing may be undertaken by investors whose main emphasis is financial success and those seeking to bridge the gap between financial risk/opportunities and real-world results. PRI will work to create this sustainable global economic system by enabling the adoption of the principles and collaboration on their implementation, promoting good governance, integrity, and accountability. Finally, responsible investment regulation has grown dramatically recently, particularly since the 2008 financial crisis and post Covid-19 pandemic.

1.7 Conclusion

This chapter demonstrates that the concept of Sustainable Finance is still being updated. The definition of Sustainable and Responsible Investing (SRI) is the starting point for discussing Sustainable Finance. As previously stated, socially responsible investing entails avoiding investments in firms that produce or sell items such as alcohol, gambling, and tobacco in favour of companies involved in social equality and environmental sustainability. Intuitively, incorporating ESG variables into investing analysis aids in the selection of high-quality companies with long-term profitability.

The Paris Agreement was a watershed moment, but while it established a clear goal, it needed to provide specifics on achieving it.

The goal is to achieve "net zero" emissions by 2050, which entails reducing greenhouse gas emissions as feasible and eliminating any remaining environmental emissions via natural or artificial processes. In this introductory chapter, the role of individuals and businesses in attaining sustainability was also discussed, as well as the significance of GRI Standards and the Principles for Responsible Investment (PRI).

Following this initial introductory chapter, it can be seen how the European Union is strongly dedicated to meeting the Paris Agreement's climate goals and the United Nations Sustainable Development Goals. Significant investment is required to overcome this task, and public funds will not suffice.

The European Commission adopted, in March 2018, an important action plan on funding sustainable growth.

The Action Plan provides a comprehensive EU plan regarding how the financial sector might help the transition to a more equal and climate-neutral economy while maintaining financial stability.

The action plan, in addition to the European taxonomy and sustainable finance tools, will be discussed in the following chapter.

CHAPTER 2

REGULATIONS AND INSTRUMENTS OF SUSTAINABLE FINANCE

2.1 Introduction to sustainable finance regulations

Although there are international accords governing sustainability, the EU has conducted its own study on sustainability and sustainable finance. The European Commission initially proposed the Sustainable Finance Action Plan in March 2018 in response to the signing of the Paris Agreement in December 2015 and the United Nations 2030 Agenda for Sustainable Development³¹ earlier that year, which established the Sustainable Development Goals. The Sustainable Finance Action Plan³² also aligns with the goals of the European Green Deal, which seeks to achieve carbon neutrality in the EU by 2050.

The plan is part of a broader Sustainable Finance Framework that is supported by a slew of improved regulations, such as a new Sustainable Finance Disclosure Regulation, which attempts to classify the sustainability performance of investment funds better, and a new EU Taxonomy that sought to identify what economic activities are “green” for the first time. The EU additionally intends to strengthen the sustainability obligations of current standards, such as Mifid II, for financial reporting.

This chapter aims to provide a better understanding of the Action Plan and the EU Taxonomy. Following that, a summary of the sustainable finance instruments available to firms will be presented.

2.2 Sustainable Finance Action Plan and the EU scenario

The European Commission published a “Sustainable Finance Action Plan” in March 2018, outlining the approach and steps that must be taken to establish a financial system capable of encouraging sustainable development from an economic, social, and environmental standpoint

³¹ “The 2030 Agenda for Sustainable Development.”, UNSCC, https://www.unssc.org/sites/default/files/2030_agenda_for_sustainable_development_kcsd_primer_en.pdf, accessed 22 October 2022.

³² “EU SFDR Explained: A guide to the EU Sustainable Finance Disclosure Regulation for investors.”, Morningstar, 2022, <https://am.jpmorgan.com/kr/en/asset-management/institutional/investment-strategies/sustainable-investing/understanding-SFDR/>, accessed 22 October 2022.

by contributing to the development of the Paris Climate Agreement and the United Nations 2030 Agenda for Sustainable Development. The plan is part of a larger sustainable finance framework that includes a new EU taxonomy to define which economic activities can be defined as “Green”.

The Action Plan highlighted three key objectives and provided a set of actions for each. These are quoted by the European Commission as follows:³³

1. *Redirect capital flows toward long-term investments to create inclusive and sustainable growth.*
 - Establishing an EU classification system for sustainability activities
 - Developing standards and labels for green financial products
 - Fostering investment in sustainable projects
 - Incorporating sustainability when providing investment advice
 - Developing sustainability benchmarks
2. *Incorporate sustainability into risk management.*
 - Better integrating sustainability in ratings and research
 - Clarifying institutional investors' and asset managers' duties
 - Incorporating sustainability in prudential requirements
3. *Encourage long-term financial and economic activity and transparency.*
 - Strengthening sustainability disclosure and accounting rulemaking
 - Fostering sustainable corporate governance and attenuating short-termism in capital markets

In May 2018, the Commission identified four major areas that must be explored to meet the action plan's objectives:³⁴

1. *Taxonomy.* A regulation proposal to create a framework to encourage long-term investment. The proposal establishes the circumstances and structure for developing, over time, a consistent classification system for environmentally sustainable economic activity.

³³ “Communication From The Commission To The European Parliament, The European Council, The Council, The European Central Bank, The European Economic And Social Committee And The Committee Of The Regions.”, 2018, EU Commission, https://www.astrid-online.it/static/upload/comm/0000/commue_finanz-economia-sost_03_2018.pdf, accessed 22 October 2022.

³⁴ “The European Commission's Action Plan on Financing Sustainable Growth.”, 2018, Green Finance Platform, <https://www.greenfinanceplatform.org/policies-and-regulations/european-commissions-action-plan-financing-sustainable-growth>, accessed 22 October 2022.

2. *Information and duties.* A proposal for a regulation modifying Directive (EU) 2016/2341 on information on sustainable investments and risks to sustainability. This law will require institutional investors and asset managers to declare how they incorporate ESG elements into their risk management processes.
3. *Benchmarks.* A proposal for a regulation amending the reference regulation.
4. *Preferences towards sustainability (consultation).* Furthermore, the Commission requested feedback on modifications to delegated acts under the Markets in Financial Instruments Directive (MiFID II) and the Insurance Distribution Directive to include ESG concerns in the advice provided to clients by investment companies and insurance distributors.

The European Legislative Framework will be analysed in this section to understand the above better.

The European Union strives to include sustainability concerns in the legislative framework and establish standards for sustainable finance. The goal is to boost investor trust, particularly regarding the completeness and quality of information and the diversity of the approaches utilised in its development. In January 2017, the European Union implemented Directive 2016/2341.³⁵ It seeks to standardise the EU's legislation governing occupational retirement provision institutions. It updates and broadens the scope of its predecessor directive, enacted in 2003. The new European Directive has three primary goals. To begin, improved governance and risk management will assure the asset security of pension funds. Then, guarantee that members and beneficiaries receive accurate and transparent information. Finally, the governance of the Member States' pension funds should be harmonised to facilitate cross-border milking and pension form transfers. The Regulation (EU) 2019/2088, known as the "Sustainable Finance Disclosure Regulation" (SFDR), was published in the Official Journal on 9 December 2019 and goes into force on 10 March 2021.³⁶

The law is significant because it defines sustainable investment and sets standard criteria for transmitting information on sustainability problems among financial operators.

³⁵ "Directive (EU) 2016/2341 Of The European Parliament And Of The Council of 14 December 2016 relating to the activities and supervision of occupational or occupational pension institutions (IORP).", 2016, Official Journal of the European Union, <https://eur-lex.europa.eu/legal-content/IT/TXT/?uri=CELEX%3A32016L2341>, accessed 22 October 2022.

³⁶ "Regulation (Eu) 2019/2088 Of The European Parliament And Of The Council of 27 November 2019 on sustainability-related disclosures in the financial services sector." 2019, Official Journal of the European Union, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019R2088>, accessed 22 September 2022.

Financial operators and advisors must publish data on how they consider environmental, social, and governance aspects at two levels: investment decision-making processes and financial products sold on European Union markets.

Furthermore, beginning on 30 December 2022, financial products will be required to include information on the detrimental effects of investment policies on sustainability considerations. Additionally, the regulation demands more thorough information on “sustainable” products, as defined in Articles 8 and 9.

Article 8 products promote environmental and social characteristics, i.e., they include specific sustainability criteria in the investment process in a binding manner, such as if they use the exclusions approach or the best-in-class strategy.

Article 9 products, on the other hand, are those with the goal of sustainable investment.

On 22 June 2020, Regulation (EU) 2020/852, titled “EU Taxonomy”, was published in the Official Journal.³⁷ The regulation has incorporated the taxonomy of eco-compatible economic activities into the European normative framework, categorising activities that can be deemed sustainable following the European Union’s sustainability goals and other social obligations. This taxonomy serves as a resource for businesses, investors, and government agencies. The taxonomy plans include climate change adaptation, pollution avoidance and reduction, and the transition to a circular economy. However, acceptable living conditions, the welfare of consumers and users of goods, decent labour, and sustainable and inclusive communities are essential at the social level.

Moreover, the disclosure requirements of that Regulation supplement the rules in sustainability-related disclosure issues in Regulation (EU) 2019/2088 to improve transparency and provide objective comparisons of the share of investments that finance sustainable economic activities. According to the Taxonomy Regulation, to be ecologically sustainable, an action must contribute significantly to one or more stated environmental objectives while not jeopardising any long-term goals, considering the economic life cycle.

The Commission also defines what is and is not a green taxonomy. As a result, it is neither a mandatory list for economic activity investors to invest in nor a list of mandatory requirements for public investments or environmental performance standards for enterprises or financial products.

³⁷ “Regulation (Eu) 2020/852 Of The European Parliament And Of The Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088.”, 2020, Official Journal of the European Union, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32020R0852>, accessed 22 September 2022.

As previously stated, adequacy evaluation is one of the fundamental foundations upon which the MiFID provides investor protection. To maintain continuity and compliance, these directives must constantly be updated on a regular basis. In this regard, the European Securities and Markets Authority (ESMA)³⁸ published a new amended version of the recommendations for implementing the suitability requirements in January 2022, which cleared how MIFID II would interact with the latest legislative amendments in the context of the European Union's transition to a zero-carbon future.³⁹

Markets in Financial Instruments Directive is the acronym for the MIFID.

MiFID II is the European Parliament and Council Directive 2014/65/EU⁴⁰, adopted on 15 May 2014, to replace Directives 2002/92/EC and 2011/61/EU.

MiFID II is thus an update to the two preceding directives, as well as MiFID I, i.e., Directive 2004/39/EC of the European Parliament and the Council. MiFID II consequently succeeded MiFID I, which went into effect on 31 January 2007 and remained in effect until 2 January 2018.

As a result of increased online trading, MiFID I was formed, establishing an organic legislative framework to govern operations directed at investors in the European Union. The financial crisis of 2008-2009 was a watershed moment when there were flaws in the functioning and transparency of financial markets. It became clear that market regulation and related financial instruments needed to be improved. The new MiFID II guideline enhances OTC trading by enhancing transparency and investor protection. Thus, the goal is to increase trust in the system, incorporate previously unregulated industries, and equip supervisory authorities with enough capabilities to fulfil their responsibilities.

MiFID II aims to strengthen investor protection by requiring intermediaries and financial organisations to take a more transparent and efficient approach. The core phrases of MIFID II's novelties are transparency and product governance. In the first situation, it will be increased by forcing the necessity to specify service expenses in percentage and absolute based on the amounts invested. From the standpoint of product governance, there will be changes, such as

³⁸ "The European Securities and Markets Authority (ESMA).", European Union, https://european-union.europa.eu/institutions-law-budget/institutions-and-bodies/institutions-and-bodies-profiles/esma_en, accessed 22 October 2022.

³⁹ "Amendments to MiFID II and MiFIR The EU's markets in financial instruments.", 2022, European Parliament, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733546/EPRS_BRI\(2022\)733546_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733546/EPRS_BRI(2022)733546_EN.pdf), accessed 22 October 2022.

⁴⁰ "Directive 2014/65 / EU Of The European Parliament And Of The Council of 15 May 2014 relating to markets in financial instruments and amending Directive 2002/92 / EC and Directive 2011/61 / EU", 2014, Official Journal of the European Union, <https://eur-lex.europa.eu/legal-content/IT/ALL/?uri=CELEX:32014L0065&qid=1435045139484>, accessed 22 October 2022.

determining the client's propensity to risk, the goal of investment, and the definition of the investment's duration horizon.

This new initiative of constraints, among other things, will trigger a greater selection of the financial services offering market, with the affirmation of the actors capable of guaranteeing the most competitive services and the appropriate structure to respect the new product governance following increased transparency.

According to a FocusRisparmio survey⁴¹, 52% of consultants are ready to serve their customers in this new phase, but 36% require additional information. Customers may consider the duty to detect sustainability preferences outlined by the regulation as an opportunity to expand their awareness. At the same time, 17.20% may perceive it as an incentive to invest in more ESG products. Some see it as an unnecessary difficulty (4.70%), and others see it as a deterrent to investing in these products (1.60%).

To conclude, the ESG MiFID II changes represent another step forward for the EU in implementing the European Green Deal. Asking investors to express their ESG preferences at the start of the investing process is a step in the right direction. It has the potential to impact demand for ESG financial products significantly. However, implementing these changes will be difficult for firms because MiFID II is related to other rules, such as the Corporate Sustainability Reporting Directive (CSRD), the EU taxonomy, and the SFDR, which are still being implemented.

2.3 The Green Deal

As part of the EU's initiatives to establish a more sustainable economy and the Action Plan on Financing Sustainable Growth, the EU has devised a new strategy known as the European Green Deal to improve the Union economy's sustainability.

The European Green Deal⁴², introduced in December 2019, is the European Commission's policy for transitioning the European Union into a completely decarbonised economy by 2050. It is an essential component of the European Commission's plan to implement the UN's 2030 Agenda for Sustainable Development, including the SDGs. In June 2021, EU environment ministers endorsed conclusions adopting the new EU policy for climate change adaptation. The

⁴¹ "Consultants: how to explain sustainability to clients.", 2022, We Wealth, <https://www.we-wealth.com/news/investimenti/risparmio-gestito/consulenti-come-spiegare-sostenibilita-clienti>, accessed 22 October 2022.

⁴² "A European Green Deal.", European Commission, https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en, accessed 14 November 2022.

strategy outlines a long-term vision for the EU to become a climate-resilient society that is fully adapted to the unavoidable impacts of climate change by 2050. The measures set out in the strategy include a better gathering and sharing of data to improve access to and exchange of knowledge on climate impacts, nature-based solutions to help build climate resilience and protect ecosystems and integration of adaptation in macro-fiscal policies.

In a nutshell, the EU Green Deal is a new EU growth strategy that promotes environmental, climate, and energy policies with the ultimate goal of boosting sustainable development. It is a road plan for transitioning to a clean, circular economy, adapting to climate change, reversing biodiversity loss, and reducing pollution. It highlights the investments required, the finance options available, and how to achieve an equitable and inclusive change to assist those whom the transition to a green economy would most impact.

Climate finance has increased significantly in recent years, reaching USD 632 billion in 2019/2020, according to the Climate Policy Initiative's Global Landscape of Climate Finance 2021.⁴³ This is a concerning trend, given that the impact of COVID-19 on climate finance has yet to be ultimately assessed. Annual climate finance flows increased by 10% between 2018 and 2020, compared to preceding periods, which increased by more than 24%.

2.4 Definition of sustainable finance from the literature

The first research on sustainable finance can be traced back to Ferris and Rykaczewski in 1986⁴⁴, when they explored the issues and opportunities of social investment in portfolio management, concluding that while social investment difficulties are relatively well-defined, the benefits remain vague. Only after thoroughly examining all issues should a social-oriented investment plan be implemented.

In 2001 R. Heinkel, A. Kraus, and J. Zechner investigated the influence of ethical investment on company behaviour in a risk-averse equilibrium context.⁴⁵ They demonstrate how exclusionary ethical investment leads to fewer investors holding polluting businesses' shares because green investors try to avoid investing in polluting firms' stock at all costs. Non-green investors' failure to share risk leads to lower stock prices for polluting companies, which raises

⁴³ "Global Landscape of Climate Finance 2021.", 2021, Climate Policy Initiative, <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2021/>, accessed 14 November 2022.

⁴⁴ "Social Investing and Portfolio Management.", 1986, SAGE Journals, <https://doi.org/10.1177/0007650386025001>, accessed 12 September 2022.

⁴⁵ "The Effect of Green Investment on Corporate Behavior.", 2001, The Journal of Financial and Quantitative Analysis, <https://doi.org/10.2307/2676219>, accessed 12 September 2022.

their capital costs. If the greater cost of capital exceeds the cost of reforming, polluting companies will become more socially responsible due to exclusionary ethical investing.

The 2005 study by Derwall J., Guenster N., Bauer R., and Koedijk K. focused on the concept of “eco-efficiency”, a phenomenon described as the economic value that a company creates compared to the waste it generates.⁴⁶ The authors found that Socially Responsible Investment (SRI) produced superior performance. Analysing the eco-efficiency scores proposed by Innovest Strategic Value Advisors⁴⁷, the authors compared two equity portfolios that differed in eco-efficiency by concluding that the high-level portfolio yielded a substantially greater average of returns than the low-ranked one. This study showcases that differences in market sensitivity, investment style or industry-specific factors cannot explain differences in performance. From these results, we can gather that SRI’s incremental benefits may be substantial. Other studies show conflicting results, such as the one from Chava S. in 2014,⁴⁸ show that exclusionary socially responsible investment and environmentally conscious lending can significantly influence the cost of equity and loan financing for impacted companies. The author examines the impact of a firm’s environmental profile on its equity and debt capital cost, discovering that investors demand significantly higher expected returns on stocks excluded by environmental concerns such as hazardous chemicals and climate change concerns than firms without such ecological problems.

Typically, lenders impose much higher interest rates on bank loans to companies with these environmental concerns. Furthermore, companies with these environmental concerns have lower institutional ownership, and fewer banks join their lending syndicate compared to firms without such ecological worries.

According to Caseau and Grolleau,⁴⁹ some investors have biases that prevent them from believing that impact investing may generate financial and social benefits. The authors addressed why people think that success in two domains simultaneously is unlikely. Humans tend to assume that when two or more goals like influence and financial returns are sought using a single means (e.g., investment), the method becomes less successful in accomplishing either goal.

⁴⁶ “The Eco-Efficiency Premium Puzzle.”, 2005, Financial Analysts Journal, <https://www.jstor.org/stable/4480656>, accessed 12 September 2022.

⁴⁷ Innovest Strategic Value Advisors is an internationally recognised investment research and advisory firm that specialises in analysing companies' environmental, social, and governance performance, emphasising the impact on competitiveness, profitability, and share price performance.

⁴⁸ “Environmental Externalities and Cost of Capital.”, 2015, Management Science, <https://www.jstor.org/stable/24550583>, accessed 12 September 2022.

⁴⁹ “Impact Investing: Killing Two Birds with One Stone?.”, 2020, Financial Analysts Journal, <https://doi.org/10.1080/0015198X.2020.1779561>, accessed 12 September 2022.

The authors proposed three explanations for biases that individuals may present. The first is a “goal dilution bias”, a type of effect in which the more objectives it attempts to accomplish, the less likely we assume that any goal will be met effectively.

The second mechanism is the “zero-sum heuristic”, defined as an investor’s instinctive belief that if money is invested in one dimension to achieve a social effect, it will be matched by an equivalent loss of money in the other dimension.

The last mechanism is the “presenter's paradox”, which describes a circumstance in which adding an argument weakens the presenter’s thesis.

Considering the several studies previously stated, it can be seen how the authors have different viewpoints and methodologies for defining sustainable finance. In 2021 Marco Migliorelli conducted a study based on this.⁵⁰ He observes that an excess of disparate concepts, definitions, and industry and governmental norms characterises the sustainable financial environment. As a result, the author believes that this heterogeneity can impede the development of conceptual thinking at the foundation of sustainable finance and create specific risks such as green and sustainable washing, the rebranding of financial flows without additionality, and the disordered adjustment in the cost of capital spreads between industries, all of which could harm the fledgling market’s credibility. Finally, the researcher argues that to represent the contemporary industrial and political situation, sustainable finance should be redefined as “finance for sustainability”. For that purpose, its definition and implementation standards should include explicit reference to the aspects of sustainability and be consistent with the Sustainable Development Goals and the sectors that contribute positively to those dimensions.

2.5 The instruments of sustainable finance

Sustainable finance does not imply a single product or a single financial activity but rather a complete system comprising a wide range of instruments for financing diverse activities with a significant social or environmental effect. As defined in the introduction chapter, sustainable finance combines tools and investments to achieve long-term economic development while minimising resource use and environmental damage. As a result, it is not simply an issue of climate-related financial ventures but of a diverse range of products in several sectors. Companies may finance their sustainable and ethical investments through green bonds, green loans, social bonds, social impact bonds and sustainability-linked bonds. Finally, sustainable

⁵⁰ “What Do We Mean by Sustainable Finance? Assessing Existing Frameworks and Policy Risks.”, 2021, MDPI, <https://doi.org/10.3390/su13020975>, accessed 12 September 2022.

investing funds will be mentioned. These are the primary instruments for long-term corporate finance.

2.5.1 Green Bonds

In 2007 the European Investment Bank (EIB) released the world's first Green Bond, dubbed the Climate Awareness Bond.⁵¹

The European banks remained the exclusive issuers among these bonds until 2013 when Bank of America and Vasakronan introduced corporate issues to the market. Green bonds were an instant success, attracting investors eager to invest in social sustainability projects.

The green bond market grew when 195 countries signed the Paris Agreement in 2015.

A green bond is a financial instrument used to finance initiatives with a beneficial environmental impact.⁵² Eligible activities include, for example, renewable energy production, waste and natural resource management that is sustainable, biodiversity protection, and energy efficiency. Green bonds provide the opportunity to increase the availability of finance required for the transition to a more sustainable economy while also lowering loan costs for projects with good environmental benefits.

The Climate Bond Initiative has authorised the other two forms of green bonds, each with its issuer and structure.

Governments and municipalities only issue green Revenue Bonds, a loan product in which the investor takes the transaction risk since capital repayment is entirely dependent on the cash flows generated by the environmental project.

Green Securitised Bonds are guaranteed bonds to fund one or more environmental initiatives. Among these bonds are asset-backed securities (ABS) issued by a business called Special Purpose Vehicle (SPV), which specialises in securitisation.⁵³ As collateral for investors, this pool of activities assumes independent subjectivity of the original owner of the assets, and the assets are a remarkable entity explicitly established for that purpose.

⁵¹ "Explaining green bonds.", 2020, Climate Bonds Initiative, <https://www.climatebonds.net/market/explaining-green-bonds>, accessed 14 November 2022.

⁵² "Green bonds Mobilising the debt capital markets for a low-carbon transition.", 2015, OECD, <https://www.oecd.org/environment/cc/Green%20bonds%20PP%20%5Bf3%5D%20%5B1r%5D.pdf>, accessed 26 September 2022.

⁵³ Securitization is a financial practice that involves selling a bank's claims, such as loans, to a firm known as a special purpose vehicle. The latter provides the bank liquidity equal to the value of purchased mortgages and issues bonds referencing the same mortgages as collateral. The particular purpose entity subsequently sells the market securities to recoup the sum paid to the bank.

The bond market began to respond when IFC issued the first \$1 billion green bond in March 2013. The new drive for sustainable fixed-income products, targeted at the expanding population of socially conscious investors, quickly gained traction. Between 2008 and 2012, issuers brought \$2.5 billion of green bonds to market, but in 2013, issuances more than tripled to \$11 billion, then trebled again to \$35 billion in 2014 and \$42 billion in 2015. So far in 2016, around \$31 billion in green bonds have been issued, with China alone giving approximately \$11 billion equivalent.⁵⁴

As a result, in 2014, the Green Bond Principles were established. There are four principles, the first of which is the type of project to be financed, which must be oriented toward environmental sustainability, and the fact that the proceeds from the emission must be invested exclusively for the implementation of these initiatives, with specific target accounts that are tied or with portfolios that the issuer can monitor. As a result, beneficiaries must prepare a report on the use of the money collected at least once a year, which must also be certified by an external auditor. Since the market's inception in 2008, corporate green bonds have proliferated. Only \$95.7 billion in green bonds were issued by corporations in 2018. Non-financial corporate issuance more than quadrupled in 2019 over 2018.⁵⁵

With around \$173 billion in issuance, 2017 was a historic year. There is an increasing tendency toward green projects as more organisations, such as pension funds and foundations, promote environmental activities. The green bond movement, however, extends outside recent climate-improvement attempts. Renewable energy projects and sustainable technology are especially important in developing markets. As the cost of constructing clean technology infrastructure falls, some countries are shifting their investments to renewable energy projects.

Apple became the most significant US corporate green bond issuer in November 2019 by issuing a \$2.2 billion green bond in Europe, following two green offerings in 2017 (\$1 billion) and 2016 (\$1.5 billion).⁵⁶ Google's parent company, Alphabet Inc., issued the most prominent corporate sustainability bond in August 2020, raising \$5.75 billion for racial equality initiatives, affordable housing projects, and sustainable transportation programs.⁵⁷

⁵⁴ "Social Bonds", HSBC, <https://pdfslide.net/documents/social-bonds-hsbc-social-bonds-social-bonds-may-be-the-youngest-member-of-the.html?page=1>, accessed 5 September 2022.

⁵⁵ "Corporate Green Bonds Benefit both Companies and the Environment", The FinReg Blog, 2020, <https://sites.duke.edu/thefinregblog/2020/07/21/corporate-green-bonds-benefit-both-companies-and-the-environment/>, accessed 5 September 2022.

⁵⁶ "Apple raises €2bn in green bonds", Financial Times, <https://www.ft.com/content/918c648c-01ae-11ea-b7bc-f3fa4e77dd47>, accessed 5 September 2022.

⁵⁷ "Alphabet Issues \$5.75 Bln Of Bonds For Environmental, Social Initiatives", Nasdaq, 2020, [https://www.nasdaq.com/articles/alphabet-issues-\\$5.75-bln-of-bonds-for-environmental-social-initiatives-2020-08-04](https://www.nasdaq.com/articles/alphabet-issues-$5.75-bln-of-bonds-for-environmental-social-initiatives-2020-08-04), accessed 5 September 2022.

Furthermore, the European market accounted for 45% of worldwide green bond offerings in 2019, totalling 116.7 billion dollars, while Asia-Pacific and North American markets accounted for 25% and 23% of global volume, respectively.⁵⁸ Geographic diversification is also increasing: in 2019, developing markets such as Barbados, Russia, Kenya, Panama, Greece, Ukraine, Ecuador, and Saudi Arabia issued their first green bonds.

Figure 5 depicts a forecast for the green Bond market. By December 2020, the demand will have exceeded USD1 trillion, and just over a year later, it will have more than 1.5 billion dollars in branded green issues. The first annual green trillion could be reached on current growth rates in the coming year. An annual green bond issue by 2025 has been identified as the next global milestone that governments and investors must achieve as a crucial contribution to meeting the climate goals.⁵⁹

Figure 5: Issue of Green Bonds (USD Trillion)



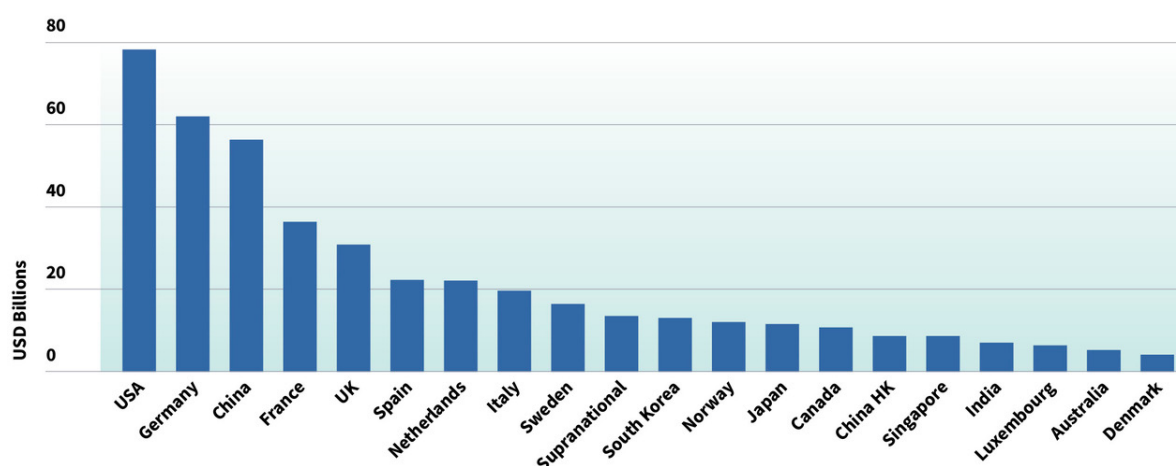
Source: Climate Bonds Initiative, 2022, <https://www.climatebonds.net/2022/01/500bn-green-issuance-2021-social-and-sustainable-acceleration-annual-green-1tn-sight-market>

⁵⁸ “2019 Green Bond Market Summary”, Climate Bonds Initiative, 2020, https://www.climatebonds.net/files/reports/2019_annual_highlights-final.pdf, accessed 5 September 2022.

⁵⁹ “\$500bn Green Issuance 2021: social and sustainable acceleration: Annual green \$1tn in sight: Market expansion forecasts for 2022 and 2025.”, 2022, Climate Bonds Initiative, <https://www.climatebonds.net/2022/01/500bn-green-issuance-2021-social-and-sustainable-acceleration-annual-green-1tn-sight-market>, accessed 16 November 2022.

As previously stated, green bonds increased between 2019 and 2021. Figure 6 illustrates how in 2020, the United States and Germany were the largest green emitters, followed by China and France.

Figure 6: Leading green issuance countries



Source: Climate Bonds Initiative, 2022, <https://www.climatebonds.net/2022/01/500bn-green-issuance-2021-social-and-sustainable-acceleration-annual-green-1tn-sight-market>

2.5.2 Green Loans

A green loan is financing that permits borrowers to utilise the revenues solely to fund initiatives that significantly contribute to an environmental goal. A green loan, like a green bond, generates funds for approved green initiatives, but a green loan, on the other hand, is based on a loan that is often smaller than a bond and is made in a private transaction. Green loans and green bonds adhere to separate but consistent principles: the International Capital Market Association’s Green Loan Principles and Green Bond Principles.

Both instruments require that all proceeds be utilised solely on qualified green assets.

To be dubbed a green loan, a loan must be structured according to the Green Loan Principles, which provide an international standard based on fundamental components.⁶⁰ Regarding the proceeds, the borrower shall analyse, measure, and report on the environmental benefits of designated green initiatives. For the project evaluation and selection process, the borrower of a green loan should disclose how it plans to analyse and choose the projects that will receive loan

⁶⁰ “Green Loan Principles.”, LSTA, 2021, <https://www.lsta.org/content/green-loan-principles/>, accessed 16 September 2022.

monies. Furthermore, the borrower describes how he intends to manage qualified projects' environmental and social risks.

Revenue management ensures transparency and promotes product integrity; the borrower's proceeds from a green loan should be credited to a separate account or tracked.

Reporting concerns the principles advocate for the use of qualitative performance indicators and quantitative performance metrics (for example, energy capacity, power generation and reduced greenhouse gas emissions).

The Green Loan Principles are based on and adhere to the Green Bond Principles to enhance financial market consistency. These Principles describe how to establish revenue-based financing via bonds and loans.

2.5.3 Social Bonds

The International Finance Corporation issued the first social bond in 2013, "Banking on Women", followed by the "Inclusive Business" bond in October 2014.

In January 2015, the Spanish Instituto de Credito issued the first formal Social Bond offer. The program was designed to assist SMEs in Spanish regions with a GDP per capita lower than the national average. The bond offered loans at favourable rates and terms to SMEs and micro-enterprises to boost employment. The outcomes have been overwhelmingly good; the €1 billion bonds, with a three-year maturity, caught the attention of a diverse group of investors, with Asia and the Middle East accounting for 24% of all bonds sold, followed by Spain, Germany, and other European bidders.

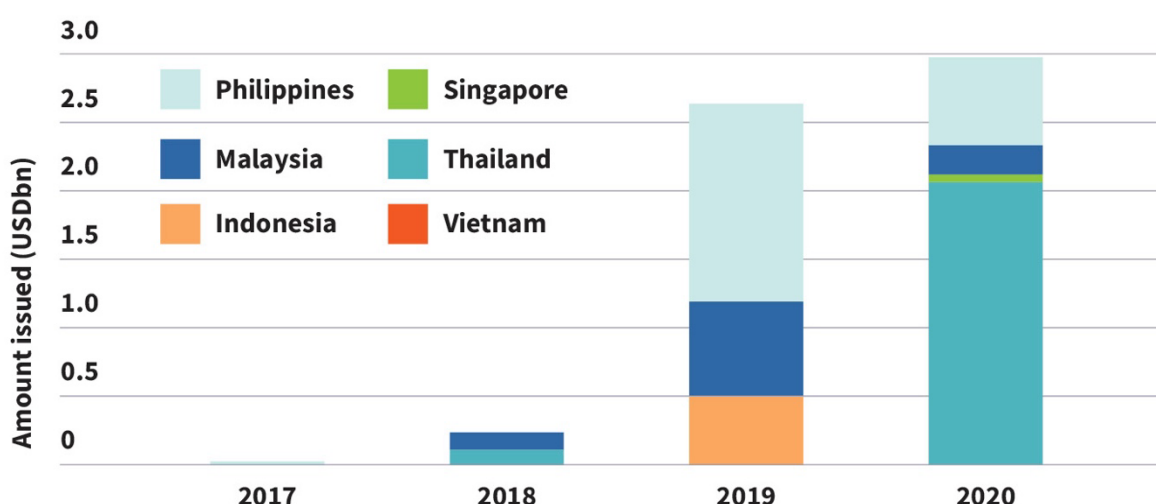
Social bonds are a composite set of goals that connect social and environmental issues. To qualify as social obligations, the revenues must fund or refinance social initiatives that create positive social outcomes and solve a social concern. Many social programs target specific demographic categories, such as persons living in poverty, marginalised communities, migrants, and the homeless. As with green bonds, social bonds are issued following a set of voluntary rules known as the Social Bond Principles (SBP), which aim to improve communication and transparency in the social bond market. Food security and sustainable food systems, access to critical services, and basic infrastructure are all topics for projects qualifying for the issue of social bonds. Furthermore, an update was issued in June 2022 to distinguish between Standard Social Use of Proceeds Bonds and Secured Social Bonds, as well as to give

additional information on green-covered bonds, securitisations, asset-backed bonds trading cards and other protected facilities.⁶¹

Surprisingly, social bonds among the Association of Southeast Asian Nations (ASEAN) have increased dramatically. It is a ten-member regional organisation whose participants include Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.⁶²

The graph below depicts the yearly ASEAN social and sustainability issuance by nation from 2017 to 2020.

Figure 7: Total Green, Social and Sustainability Bonds issuance for ASEAN 2016 - 2020



Source: Climate Bonds Initiative, 2021, <https://www.climatebonds.net/resources/press-releases/2021/04/record-year-green-social-and-sustainability-debt-issuance-asean>

The most remarkable growth was in Thailand, which boosted the broadcasting of social and sustainability items by 12 times between 2018 and 2020. The Philippines and Thailand declined between 2019 and 2020. Yet, it should be emphasised that Indonesia's expansion was driven by sovereign and government-backed entity issuance, and it will undoubtedly continue to rise in the years after 2020.

⁶¹ “Social Bond Principles. Voluntary Process Guidelines for Issuing Social Bonds.”, ICMA, 2022, https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Social-Bond-Principles_June-2022v3-020822.pdf, accessed 16 September 2022.

⁶² “Association of Southeast Asian Nations (ASEAN).”, NTI, 2022, <https://www.nti.org/education-center/treaties-and-regimes/association-southeast-asian-nations-asean/>, accessed 16 November 2022.

2.5.4 Social Impact Bond

To minimise recidivism, the first Social Impact Bond (SIB) was created in the United Kingdom in 2010 to promote the reintegration of convicts from Peterborough Prison.

The SIBs are unique impact investment vehicles designed to execute public utility projects, with investors only compensated if a genuinely positive social effect is generated and correctly assessed. As a result, SIBs are classified as one of the more sophisticated contractual instruments known as “Pay by Result” or “Pay for Success”.

The SIB is composed of five stakeholders: a public administration (municipal, regional, or national); service providers (non-profit organisations or social enterprises); an investor; a specialised intermediary (usually third sector organisations); and an independent evaluator who measures the impact generated and the effectiveness of the results obtained.

However, the SIB is not a bond in the strict sense since it lacks certain the features of a typical bond, such as the return of invested capital, periodic interest payments, and secondary market trading. The SIB yield is, in reality, variable, much like an action’s price, and fluctuates depending on the social enterprise’s performance. The financial risk of the operation, which, in the absence of covers or guarantees, falls entirely on the investors, who are the subjects less involved in the process and less equipped with powers to influence the choices of the other actors, other types of risks are added, such as program failure, linked to the SIB’s unsuitability for the specific context for which it was designed, and political risk. According to the most recent statistics, 89 SIBs have been formed in 19 countries, raising around \$400 million in investment. The United Kingdom has the most trials, followed by the United States and the Netherlands.⁶³

2.5.5 Sustainability-linked bond

Sustainability-linked bonds (SLBs) are one of the most recent breakthroughs in sustainable bonds. SLBs, which went into effect in September 2019 due to the Enel corporate bond initiative known as the “General Purpose SDG Related Bond”, is issued to finance the growth of production capacity linked to renewable sources. It is a sustainable multi-tranche bond offering for a total of 2.5 billion euros that allows for a 25-basis point rise in the coupon rate if the aim of a 70% reduction in CO2 emissions for the period 2017-2030 is not met.

⁶³ “Social Impact Bonds: State Of Play & Lessons Learnt.”, 2016, OECD, <https://www.oecd.org/cfe/leed/SIBs-State-Play-Lessons-Final.pdf>, accessed 17 September 2022.

The ICMA has developed recommendations for issuing financial instruments that integrate the attainment of future sustainability targets for Sustainability-linked bonds. Sustainability-linked bond principles (SLBP) are best practices focusing on clarity and openness that investors may utilise to understand a product's financial and structural features.

The following are the five Sustainability-linked bond principles:⁶⁴

1. *Key Performance Indicators Selection (KPIs)*, to issue SLBs, first specify KPIs, either external or internal to the firm, which must be compatible with the activity carried out and the issuer's sustainability plan, following the priorities of the reference sector and under management control.
2. *Calibration of Sustainable Performance Goals*, where goals must be established, considers internal elements such as the company's past performance and future obligations and external references such as competitors and market standards.
3. *The bond's characteristics*, the SLB is required to forecast the financial and structural consequences of one or more trigger events. The most typical result is the possible change in the coupon, with a rise in the rate if the sustainability criteria are not fulfilled.
4. *Reporting*, the issuing business shall disclose and make accessible all necessary information about KPIs and Sustainable Performance Goals, including any information allowing investors to monitor the degree of ambition of the aims.
5. Performance level checks against each Sustainable Performance Goal are necessary for each KPI examined. An external auditor must perform these inspections.

2.5.6 Sustainable Funds

Sustainable funds examine investments or their social impact using Environmental, Social, and Corporate Governance (ESG) criteria. The concept of sustainable funds should be differentiated from funds that use value-based measures, such as those that exclude so-called "sinful acts" such as tobacco, alcohol, and gambling or others that restrict their investments by faith-based criteria.

⁶⁴ "Sustainability-Linked Bond Principles. Voluntary Process Guidelines", ICMA, 2020, <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Sustainability-Linked-Bond-Principles-June-2020-171120.pdf>, accessed 16 September 2022.

Funds that are offered for sale in the EU as of 10 March 2021 have been categorized by their management as Article 6, 8, or 9 depending on their sustainability goals.⁶⁵

As previously stated, SFDR is a component of the EU’s Sustainable Growth Financing Action Plan and was created to divert capital flows through sustainable finance. The SFDR mandates asset managers and financial intermediaries to disclose sustainability information and sets mandatory ESG reporting duties.

A fund will be classed as an article 6, 8, or 9 based on its qualities and level of sustainability. Article 6 will contain funds having no long-term viability, article 8 the funds that promote environmental or social qualities and article 9 the funds aimed for long-term investment.

Figure 9: Responsibilities for disclosure based on the types of sustainability claims

Article SDR	Description	Obligation
Article 9	Financial products which have sustainable investment ⁴¹ as their objective.	Must complete Taxonomy disclosures where the investment concerns activities that contribute to an environmental objective.
Article 8	Financial products which promote environmental or social characteristics of the investment, either alone or in combination with other characteristics.	Must complete Taxonomy disclosures where environmental characteristics are promoted.
Article 6	All other financial products.	Must complete Taxonomy disclosures or carry a disclaimer that “the investment(s) underlying this financial product do not take into account the EU criteria for environmentally sustainable investments”.

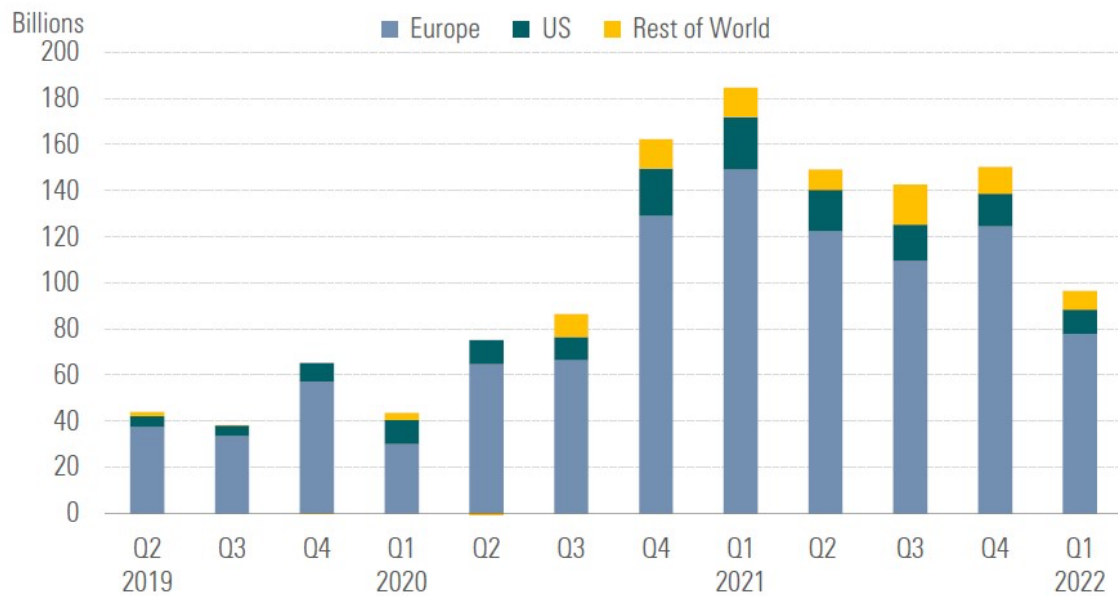
Source: Rete Clima, 2022, <https://www.reteclima.it/il-regolamento-sfdr-e-la-trasparenza-dei-fondi-esg/>

According to the most recent Morningstar research,⁶⁶ global net flows to ESG strategies were \$96.6 billion in the first quarter of 2022, a 35.7% decrease from the end of 2021. This fall is attributable to Europe’s current war circumstances, the consequences of which were even greater than the repercussions of the Covid-19 pandemic’s breakout.

⁶⁵ “SFDR Article 8 and Article 9 Funds: 2021 in Review.”, Morningstar, 2022, <https://www.fundresearch.de/fundresearch-wAssets/docs/SFDR-Article-8-and-Article-9-Funds-2021-in-Review.pdf>, accessed 11 December 2022.

⁶⁶ “Sustainable Inflows Slow in Q3.”, Morningstar, 2022, <https://www.morningstar.co.uk/uk/news/227979/sustainable-inflows-slow-in-q3.aspx>, accessed 11 December 2022.

Figure 10: Sustainable global funding flows (in billions of dollars)



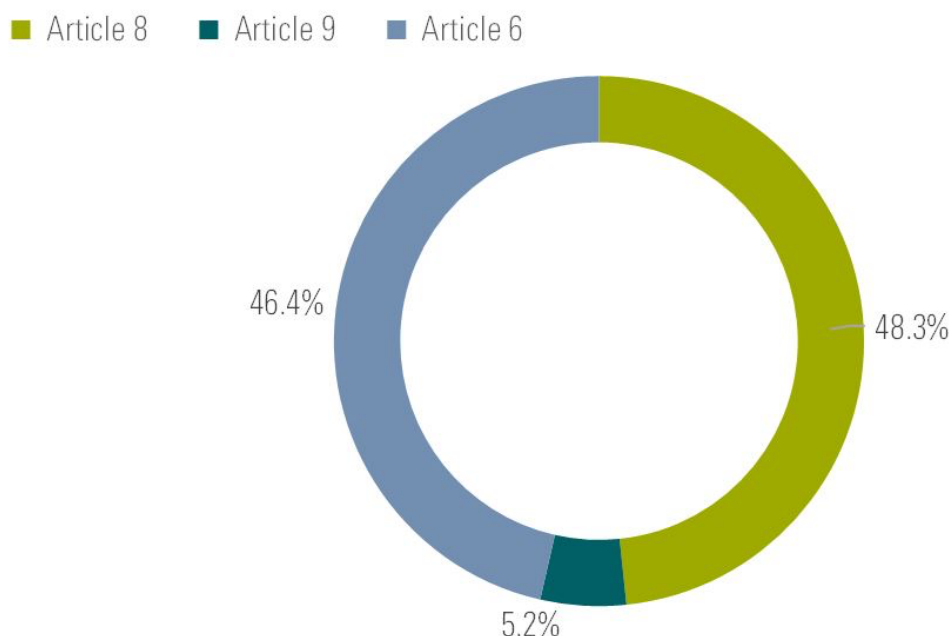
Source: Morningstar Direct, Manager Research. Data as of March 2022

According to Morningstar global research manager Hortense Bioy, sustainable funds account for more than 17% of the assets in the European asset management business overall. The same predicts that the percentage will rise in the coming quarters as demand for such methods grows, pushing managers to launch new services and re-propose old ones. The impacts of the MIFID II amendment will be felt in 2023, according to Hortense Bioy, but the latter has the potential to expedite the adoption of these securities among retail investors.

According to another Morningstar analysis,⁶⁷ article 8 and 9-compliant fund assets hit €4 trillion at the end of 2021, accounting for 42.4% of all funds offered in the EU. For instance, they captured 64% of all investment in Europe in the fourth quarter of 2021.

⁶⁷ “Article 8 Funds Shed Another €28.7bn.”, 2022, Morningstar, <https://www.morningstar.co.uk/uk/news/227898/article-8-funds-shed-another-%E2%82%AC287bn.aspx>, accessed 11 December 2022.

Figure 11: SFDR Fund Type Breakdown by Assets



Source: Morningstar Direct. Data as of September 2022.

Figure 11 highlights that 48.3% of funds had been classed as Article 8, while 5.2% had been classified as Article 9, based on SFDR data obtained from prospectuses funds offered for sale in the EU. Regarding assets, the funds included in Articles 8 and 9 amounted to a bigger share of the EU scenario. These combined assets are worth just around 3 trillion euros.

In 2022 Morningstar deleted 1200 funds from its list of sustainable funds, for a total of 1.4 trillion dollars, after raising concerns about greenwashing connected to the exponential expansion of assets classed as Articles 8 and 9 under the SFDR.⁶⁸ This decision results from a revision of legal documents that revealed unclear terminology in the texts. According to the company, the majority of the prohibited funds would be those categorised as Article 8, which are funds that promote, among other things, environmental or social sustainability.

The company claims that it has deleted over a thousand funds, many of which included ESG criteria in order to self-classify as supporters of environmental or social aspects under European standards. According to some analysis, the sustainable fund assets in Morningstar fell from \$3.4 trillion in September to \$2.03 trillion.

⁶⁸ “Morningstar cuts 1,200 funds from ‘sustainable’ list.”, Financial Times, 2022, <https://www.ft.com/content/9cf8c788-6cad-4737-bc2a-2e85ac4aef7d>, accessed 11 December 2022.

Morningstar has previously warned that the accelerated categorisation of funds as sustainable following the implementation of the SFDR law created several concerns, both in respect of investor transparency and greenwashing.

In this last part, the phenomenon of greenwashing has been mentioned several times. It can be seen that one of the most common issues in the sustainable environment that stems from these regulatory standards is greenwashing.⁶⁹ Given its importance and growing development in recent years, the next chapter will focus only on its definition and development.

2.6 Conclusion

In March 2018, the European Commission published an Action Plan for Sustainable Finance defining the strategy and the measures to be taken to achieve a financial system capable of promoting genuinely sustainable economic, social and environmental development, contributing to the implementation of the Paris Agreement and the 2030 UN Agenda for Sustainable Development. This chapter contains a detailed description of the action plan and its accompanying regulations. A description of MIFID II has followed this explanation. MiFID II, introduced to enhance and broaden the prior MiFID law, has been used to safeguard investors in the market since 2018. To underline the importance of MiFID II, the Authority recalls its rules to limit market, credit and liquidity risks during the coronavirus spread phase. At the global and European levels, there was a severe crisis during the COVID-19 period. It should be underlined that sustainability is the cornerstone of the European Union's recovery from the COVID-19 epidemic and that the financial sector will be crucial to a sustainable recovery and the accomplishment of the European Green Deal goals, as mentioned above. To make the ecological transition, Europe relies on sustainable finance, which allocates funds to projects that not only produce economic value but also benefit society and the environment. In fact, the European Green Deal has demonstrated that significant financial flows, many of which will need to originate from the private sector, are necessary for the transition to a climate-neutral economy and the accomplishment of environmental sustainability goals. The mechanisms of sustainable finance, including green, social, and sustainability bonds, and sustainable funds, were also examined in this chapter. The Paris Agreement and the Sustainable Development Targets (SDGs) outlined in the first chapter are two examples of sustainability goals with which

⁶⁹ "Greenwashing: your guide to telling fact from fiction when it comes to corporate claims.", 2022, European Climate Pact, https://climate-pact.europa.eu/news/greenwashing-your-guide-telling-fact-fiction-when-it-comes-corporate-claims-2022-06-30_en, accessed 21 October 2022.

investors are increasingly trying to align their portfolios. The mitigation of physical, transitional, and long-term sustainability risks and alignment with sustainability goals, are just a few of the potential advantages that Sustainable Bonds may provide. The phenomenon of *greenwashing* continues to be a problem for investors even if the development of legislation in the area of sustainable finance and the articulation of the guiding principles in terms of green products have reinforced the integrity of the sustainable bond market. The next chapter will investigate the topic of greenwashing, which is crucial in the context of sustainable financing.

CHAPTER 3

THE MEANING OF GREENWASHING

3.1 The concept of greenwashing

Companies' instrumental exploitation of green and social claims has been a prominent theme in the public debate regarding corporate social responsibility (CSR) in recent decades. This disparity between socially responsible communication and behaviours is usually referred to as greenwashing. According to Delmas and Burbano⁷⁰, greenwashing occurs when a company spends more effort and money promoting itself as environmentally benign rather than decreasing its environmental impact. It is a deceptive marketing ploy designed to deceive consumers who prefer to purchase goods and services from environmentally friendly companies.

The previous chapter described the EU taxonomy as a strategy for combating greenwashing. Instead, several experts believe it has devolved into a harmful greenwashing instrument, with incentives for fossil fuels, uncontrolled deforestation, and forest fires.

All of this will be discussed in this chapter.

The first section will explain greenwashing and a road map to its origin and evolution, highlighting that it existed before the term was coined.

A literature review will be conducted in the second section of this chapter, with an emphasis on the relationship between CSR and greenwashing.

The legislation against greenwashing will be explained in the third part, as well as how the various countries of the European Union and the United States have managed and continue to control the situation.

In the final section, some cases of greenwashing will be provided, ranging from the most distant, such as the case of DuPont in 1989, to the most current, Tesla in 2021.

⁷⁰ "The Drivers of Greenwashing.", Magali A. Delmas & Vanessa C. Burbano, SAGE Journals, 2011, <https://journals.sagepub.com/doi/10.1525/cmr.2011.54.1.64>, accessed 26 November 2022.

3.2 Definition and history of greenwashing

According to the authors Karen Becker-Olsen & Sean Potucek, greenwashing is a communication or marketing tactic used by organisations, institutions, and companies to promote their operations as eco-sustainable by emphasising the good effects of some of their activities while concealing the negative environmental impact on others or the enterprise as a whole.⁷¹

In particular, in the most common cases of greenwashing, the communication has different characteristics, such as a lack of information or timely data that supports the declared; information and data are stated as certified when authoritative bodies do not recognise them; the information is vague to the point of generating consumer confusion; false or counterfeit labels may be used; and finally, there are false environmental statements.

The earliest instance of greenwashing happened in the 1960s, when the Westinghouse nuclear power division was threatened by the anti-nuclear movement, which raised concerns about the safety and environmental impact of nuclear power. The latter responded with a series of declarations proclaiming nuclear power stations' cleanliness and safety.⁷²

Westinghouse nuclear power facilities provided enormous amounts of cheap electricity while emitting far less pollution than competing coal-fired power plants in 1969. However, because the pronouncements came after the nuclear meltdowns in Michigan and Idaho, the previous assertions were called into question. Westinghouse's pronouncements also overlooked ongoing worries about the environmental impact of nuclear waste.

The term "greenwashing" was popularised by the well-known environmentalist Jay Westerveld in a 1986 essay in which he claimed that the hotel business erroneously promoted towel reuse as part of a larger environmental plan when, in fact, the act was conceived as a cost-cutting tool. As a result, the word is often applied to any organisation that looks to be adopting new environmental policies that are cost reductions.

Taking a step back, it was in 1983 that Jay Westerveld coined the word "greenwashing". He was not thinking about nuclear energy but rather about towels. At the time, Jay Westerveld was a university student on holiday in Fiji when he noticed a towel tag encouraging resort customers to reuse towels multiple times before washing them to reduce waste and environmental impact.

⁷¹ "Greenwashing.", Becker-Olsen, K., Potucek, S. Encyclopedia of Corporate Social Responsibility. Springer, 2013, https://doi.org/10.1007/978-3-642-28036-8_104, accessed 26 November 2022.

⁷² "The troubling evolution of corporate greenwashing.", The Guardian, 2016, <https://eml.manchester.ac.uk/misc/ucil/CaSW/newsitems/TheTroublingEvolutionOfCorporateGreenwashingTheGuardian.pdf>, accessed 26 November 2022.

Because of these in-room advertisements, the hotel sector lowered the cost of washing linen, resulting in significant economic and image benefits. In an essay published in 1986, Jay explains how the decision to reuse the previous day's towels was made for business reasons rather than environmental ones. In that case, it allowed hotels to save money on one of the most common expenses.

However, it was the increased awareness of the environmental impact of consumerism in the 1990s that prompted firms to undertake green marketing, which was not always accompanied by appropriate practices. According to several surveys, most customer purchases are influenced by a company's environmental record. This increased interest in the environment has raised awareness of greenwashing. The word had formally entered the English language by the end of the decade when it was included in the Oxford English Dictionary. According to Nielsen's 2015 survey, 66% of global consumers are prepared to pay more for environmentally friendly items, with 72% of Millennials agreeing.⁷³ They also highlighted that in 2014, global sales of consumer products from brands with a demonstrable approach to sustainability increased by more than 4%.

According to a recent Wealthify research⁷⁴, the most difficult challenge is discovering companies who offer ecologically friendly products. According to this survey, 76% of participants believe that supporting ethical and sustainable products it is vital, however 78% of UK adults stated that they could not tell when a brand is under greenwashing. When divided by age, only 37% of young individuals aged 18-24 say they can perceive a difference, while only 6% of those over 65 say they can. Furthermore, 25% of customers between the ages of 18 and 24 relies on celebrity endorsement to establish a brand's environmental credentials, while those over 65 rely on word of mouth.

It is worth mentioning the difference between greenwashing and green marketing.

The concept of Green Marketing began in the late 1970s when the American Marketing Association established the term "Ecological Marketing" to address consumers' requirements with products with a lower environmental impact. Since the 1990s, the increase in fossil fuel prices has led to the creation of lower consumption to tempt users to acquire through promises of energy savings at a greater price.

⁷³ "The Sustainability Imperative. New Insights On Consumer Expectations." Nielsen, 2015, https://www.nielsen.com/wpcontent/uploads/sites/3/2019/04/Global20Sustainability20Report_October202015.pdf, accessed 26 November 2022.

⁷⁴ "Ethical Consumer Guide: Get Woke, Go Broke?", Wealthify, 2021, <https://www.wealthify.com/blog/will-woke-make-you-broke>, accessed 26 November 2022.

Consumers in this situation are willing to pay a higher price for a product that promises large savings on energy expenditure in the long run.

The well-known four P's of traditional marketing⁷⁵ have given way to the new four P's of Green Marketing:⁷⁶

- Product: A corporation should provide environmentally friendly products that do not pollute the environment while also providing positive externalities, such as preventing the use of other polluting items.
- Price: The price may be greater than that of conventional items, with the difference proportional to the economic value that the consumer assigns to the product's lower pollution. This is known as "environmental credit".
- Place: the selection of marketing channels must be appropriate to the green perspective.
- Promotion: the strategic approach must be adequate, emphasising the product's and company's environmentally friendly characteristics, such as promoting the company's initiatives to safeguard the environment.

Green marketing, contrary to greenwashing, refers to the activities and techniques implemented by a firm to help enhance its environmental sustainability. While a company may decide to use greenwashing strategies to demonstrate that it is environmentally sustainable, a green marketing strategy entails a lengthy process mainly based on the premise of credibility, in which consistency, transparency, and concreteness must be consistently demonstrated.

3.3 Literature review

When it comes to defining greenwashing, there are opposing viewpoints, according to the literature. One definition of greenwashing, according to Eric Lane (2010)⁷⁷, is the degree of untruth implicit in the message. Greenwashing, in this case is defined as false advertisements or assertions. Greenwashing, according to Eun-Hee Kim and Thomas Lyon (2011)⁷⁸, is the selective revelation of good information about a company's environmental or social concerns

⁷⁵ "4 P's of Marketing.", CFI, 2022, <https://corporatefinanceinstitute.com/resources/management/4-ps-of-marketing/>, accessed 26 November 2022.

⁷⁶ "Green Marketing: Greening the 4 Ps of Marketing.", *International Journal of Knowledge and Research in Management*, 2015, https://www.researchgate.net/publication/310345086_Green_Marketing_Greening_the_4_Ps_of_Marketing, accessed 26 November 2022.

⁷⁷ "Consumer Protection In The Eco-Mark Era: A Preliminary Survey And Assessment Of Anti-Greenwashing Activity And Eco-Mark Enforcement.", Eric L. Lane, 2010, <https://repository.law.uic.edu/cgi/viewcontent.cgi?article=1217&context=ripl>, accessed 26 November 2022.

⁷⁸ "Green spin everywhere: How greenwashing reveals the limits of the CSR paradigm." *Journal of Environmental Economics and Management*, 2011, <https://www.sciencedirect.com/science/article/abs/pii/S0095069610001075>.

without completely disclosing negative information about these elements. In this situation, greenwashing is considered as an organisation's concealment of potentially detrimental information.

Linder (2010)⁷⁹ identifies two types of greenwashing definitions: those that focus on the features of the things while others focus on the procedure behind the product. The congruence between an object's attributes and corporate statements about the object's greenness is considered in the object attribute view. As a result, the emphasis is on the object of communication and its peculiarities. According to this viewpoint, greenwashing is a form of misleading advertising that translates into advertisements and labels that promise greater environmental benefits than they offer.

According to Seele and Gatti (2015)⁸⁰, another basic characteristic of greenwashing is that it is something happening in the eye of the beholder. According to the researchers, greenwashing occurs when a message is promoted as such by a non-governmental group, the media, or other stakeholders, regardless of the degree of untruth in corporate CSR communication. As a result, a third-party allegation is a crucial component of greenwashing.

Interesting research that is worth mentioning is the one from Lucia Gatti, Peter Seele & Lars Rademacher (2019).⁸¹ After reviewing the literature, they conclude that a completely voluntary and unregulated CSR approach fosters the proliferation of greenwashing. According to the authors, voluntary approaches lead to grey areas that permit for deceptive information. Still, even an exclusively mandated strategy might stimulate the establishment of grey areas in which businesses look for ways to avoid the regulations. This is supported by the inclusion of required features in the CSR concept, which runs counter to the standard CSR paradigm, which focuses solely on the idea of voluntarism.

The authors conclude by recommending that greenwashing be avoided more effectively by combining voluntary and required elements to promote SRI and regulate its implementation and disclosure.

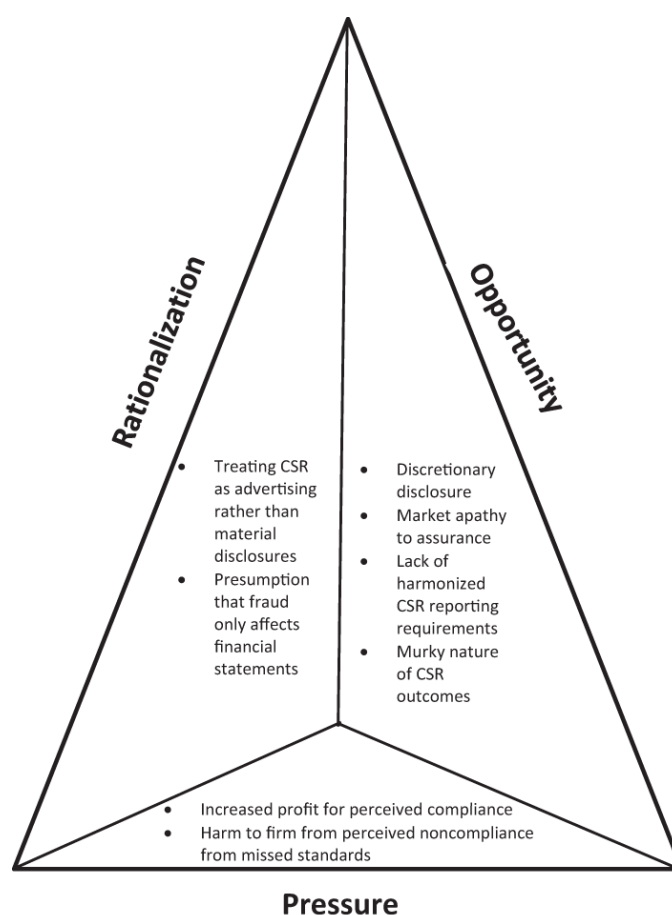
⁷⁹ "The two major types of 'greenwash' definitions: The problematic implications of indistinctness and a set of likely inconsistencies.", Linder, 2010, Working Paper, Center for Business Innovation, Goteborg.

⁸⁰ "Greenwashing Revisited: In Search of a Typology and Accusation-Based Definition Incorporating Legitimacy Strategies.", Peter Seele & Lucia Gatti, 2015, https://onlinelibrary.wiley.com/doi/full/10.1002/bse.1912?casa_token=iXPHsnMGVZoAAAAA%3AL1A8UzjraGv3yHWbWdcM3outZ1SD6xxVltWlQ-ymw8FhcICB_53Ny6phM4ZFHRz6jW59Opn_PYal, accessed 22 November 2022.

⁸¹ "Grey zone in – greenwash out. A review of greenwashing research and implications for the voluntary-mandatory transition of CSR.", International Journal of Corporate Social Responsibility, 2019, <https://jcsr.springeropen.com/articles/10.1186/s40991-019-0044-9>, accessed 22 November 2022.

In 2020, the issue of the link between greenwashing and CSR was addressed again. John Richard Kurpierz and Ken Smith in 2020⁸² investigated the parallels between fraud and greenwashing in order to develop a framework for improving CSR research and practice. The authors found that Greenwashing can evolve into a type of fraudulent reporting, the sole difference being how the general reporting regime has evolved. Financial reporting fraud is a new phenomenon, but greenwashing is only now approaching the period of simple reporting. They also created a greenwashing triangle to aid practitioners and researchers in developing policies to minimise the degree and frequency of greenwashing.

Figure 10: The greenwashing triangle



Source: The greenwashing triangle: adapting tools from fraud to improve CSR reporting, 2020, <https://www.emerald.com/insight/content/doi/10.1108/SAMPJ-10-2018-0272/full/html>.

They demonstrated that greenwashing and fraudulent reporting are significantly comparable to have equal causes and that they both occur due to information asymmetry between the actors

⁸² “The greenwashing triangle: adapting tools from fraud to improve CSR reporting.”, Sustainability Accounting, Management and Policy Journal, 2020, <https://www.emerald.com/insight/content/doi/10.1108/SAMPJ-10-2018-0272/full/html>, accessed 22 November 2022.

involved. They finally demonstrate that additional research into fraud-fighting strategies applied directly to greenwashing scenarios can assist companies in being fairly compensated for their sustainability.

As seen in the preceding chapter, the environmental, social, and governance (ESG) information given in corporations' sustainability reports is frequently unaudited. If organisations' ESG information is untrustworthy, greenwashing can be an obstacle to incorporating ESG criteria into investment choices. Ellen Yua, Bac Van Luu, Catherine Chenc (2020)⁸³ discovered that when stakeholders scrutinize the relationship between ESG transparency and ESG performance, corporations engage in less ESG greenwashing.

They focus on large-cap enterprises since smaller organizations frequently need more resources to incorporate ESG factors into their activities. As a result, smaller enterprises may require even more assistance from regulators and governments. Society is nonetheless interested in whether smaller enterprises are prone to participate in ESG greenwashing in the future.

Changing perspective and analysing a different area, a group of authors studied how emerging markets respond to the phenomenon of greenwashing.⁸⁴ The research highlights the dangers of greenwashing emerging markets, especially in Asia. Greenwashing can arise instantly when multinational firms do not fully adhere to corporate ethics due to countries' weak legislative structure. The corporate environment in Asia economies is distinguished by clear market opportunities and little competition pressure, particularly during the early stages of modernisation. This is the most likely scenario for greenwashing to arise. Greenwashing generally undermines societal advantages, even if it piques the interest of current stakeholders. In this situation, the government's or authorities' primary job is safeguarding customers.

Examining the perspective of all stakeholders, Riccardo Torelli, Federica Balluchi, and Arianna Lazzini in 2019 measured how stakeholders responded to environmental scandals while assessing impacts on stakeholders' perceptions of corporate environmental responsibility and corporate greenwashing for numerous communication levels.⁸⁵

⁸³ "Greenwashing in environmental, social and governance disclosures.", *Research in International Business and Finance*, 2020, https://www.sciencedirect.com/science/article/pii/S0275531919309523?casa_token=IBRU7Tssw18AAAAA:Bqp-8I8ho1-eXU9q6Pp3mGhLakNTqJYPWtf_Fyhprd4cTpRytyVI08NiG2Nt6jlqGbQ9OJ0, accessed 22 November 2022.

⁸⁴ "Greenwashing Behaviours: Causes, Taxonomy And Consequences Based On A Systematic Literature Review." *Journal of Business Economics and Management*, 2020, <https://doi.org/10.3846/jbem.2020.13225>, accessed 26 November 2022.

⁸⁵ "Greenwashing and environmental communication: Effects on stakeholders' perceptions.", 2019, *Business Strategy and the Environment*, <https://doi.org/10.1002/bse.2373>, accessed 26 November 2022.

In order to determine whether stakeholder attitudes and behaviour change in response to an observed case of greenwashing, this study aimed to investigate the impact of various levels of greenwashing on stakeholders. The data show that different degrees of greenwashing have diverse effects on stakeholders' perceptions of corporations' environmental responsibility and their responses to environmental scandals.

3.4 Greenwashing legislation

The members of the European Parliament approved the European Commission's taxonomy proposal on 6 July 2022. From that, fossil and nuclear gas will be labelled as green energy activities, which means that investments in fossil and nuclear gas will be considered green by the European Union beginning 1 January 2023.

The EU Taxonomy Regulation, as described in the previous chapter, defines a classification system designed to give entrepreneurs, investors, and policymakers guidance on sustainable financial products and energy resources. The legislation's primary purpose is to divert funds into initiatives deemed environmentally sustainable by the Commission. In other words, taxonomy is intended to combat greenwashing by undertaking economic activities requiring corporations and financial market participants to report on them.

Looking at the situation in Italy, on 25 November 2021, the Court of Gorizia accepted the application for judicial review by Alcantara against Miko, which produces Dinamica, a microfiber comparable to suede used in the furniture, fashion, and vehicle industries. The court's conclusion agreed that the company's statements were deceptive advertising.⁸⁶

Although Italy has a civil law system, where judicial decisions are not binding legal precedents as in common law countries, this is an important beginning point because it shows consumers are becoming more concerned about sustainability.

Even though there is no EU law on greenwashing, numerous European countries are acting to legally safeguard people and companies from greenwashing.

In the United Kingdom, on 20 September 2021, the local Antitrust issued the Green Claims Code, which assists firms in avoiding greenwashing and thereby violating consumer protection legislation.⁸⁷

⁸⁶ "Zero tolerance for greenwashing : an Italian ordinance punishes (severely) false environmental claims.", 2021, <https://www.designatlarge.it/italy-greenwashing-2021/?lang=en>, accessed 26 November 2022.

⁸⁷ "CMA publishes "Green Claims Code" which sets out guidance for businesses making environmental claims.", Lexology, 2022, <https://www.lexology.com/library/detail.aspx?g=bf71e7ed-9068-4da2-a8bc-f04cae3b5ce>, accessed 26 November 2022.

In Spain, an environmental institution was issued in 2009, which includes the principles of truthfulness and objectivity, which are meant to present accurate facts about the product and to avoid exaggeration in commercial promotions.

In France, the government recently enacted a sanction in which companies alleged of greenwashing and held responsible for misleading advertising for violating the consumer code will be fined up to 80% of the total cost of the misrepresentative advertising campaign, with the obligation to rectify in the media, advertising, and website.⁸⁸

Lastly, the Biden administration in the United States is exploring the inclusion of more measures to combat greenwashing. For example, new climate change operating units within financial institutions.⁸⁹

In the context of sustainability communication, the European norms alluded to are the following:

- *Directive 2005/29 of the European Parliament.*⁹⁰ The Directive controls unfair commercial practices between enterprises and consumers in the internal market and strives to strengthen consumer protection through harmonisation among Member States. Greenwashing or sustainability communication is not expressly stated. Still, the accompanying implementation recommendations reveal that consumers may consider environmental benefits in their purchasing decisions, for which communication must be clear.
- *Legislative Decree 6 September 2005 no.206 or Consumer Code.*⁹¹ The Decree integrates earlier Italian and European legislation, as well as later changes, and is centred on consumer protection from various perspectives. For example, it supports enough information, proper publicity, and the transparency and fairness of contractual relations while encouraging collective forms of protection.

⁸⁸ “France Introduces One Of The World’s First Greenwashing Laws.”, 2021, <https://www.communicatomagazine.com/news/2021/france-introduces-one-of-the-world-s-first-greenwashing-laws/>, accessed 26 November 2022.

⁸⁹ “Biden administration faces increasing calls to stop companies from 'greenwashing!'”, ABC News, 2021, <https://abcnews.go.com/Politics/biden-administration-faces-increasing-calls-stop-companies-greenwashing/story?id=76907048>, accessed 26 November 2022.

⁹⁰ “Directive 2005/29/EC of the European Parliament and of the Council.”, Legislation.gov.uk, 2005, <https://www.legislation.gov.uk/eudr/2005/29/contents#>, accessed 22 November 2022.

⁹¹ “Legislative Decree 6 September 2005 no.206, Consumer Code, pursuant to Article 7 of Law no. 229 of 29 July 2003.”, Consumer Code, 2005, https://www.codicedelconsumo.it/Codice_del_consumo_english_version.pdf, accessed 26 November 2022.

- *Legislative Decrees No. 145 And 146.*⁹² These decrees incorporate and improve on the Consumer Code. Article 8 of D.Lgs. 145/2007 specifies that the corporation may undertake to fix the infringement by discontinuing the dissemination of false advertising or changing it and that harsher fines may be imposed. However, some amendments to the Consumer Code are introduced in Decree 146/2007. The revisions specifically address Articles 18 to 27 of Legislative Decree No. 206/2005 to align it with the aforementioned European legislation.

3.5 Examples of Greenwashing: from the companies to the funds

One of the first instances of greenwashing occurred in 1989 when the chemical giant DuPont advertised its new tankers with marine animals fluttering their fins and wings to the music of Beethoven's Ode to Joy. However, the firm was the biggest polluter in the US. The story begins in 1998 when an attorney investigates the firm's behaviour toward a farmer's request who believes the firm is damaging his land.⁹³ Following various examinations, references to PFOA, a chemical substance previously unknown to the EPA, are discovered.⁹⁴ Between 1951 and 2003, DuPont is reported to have dumped about 7100 tons of PFOA-C8 into watercourses near its Washington Works plant, subsequently polluting the nearby Ohio River. In 2005, the EPA fined DuPont \$16.5 million for concealing the risks associated with the disposal of PFOA. The researchers have addressed possible correlations between PFOA and the start of kidney and testicular cancer, thyroid malfunction, cholesterol peaks, and intestinal ulcers after seven years of research in December 2011. The American Conference of Governmental Industrial Hygienists (ACGIH) has categorized PFOA as a verified carcinogen in animals with unclear human implications. The same AIRC listed PFOA, which includes chemicals potentially harmful to humans, in 2016.

Another well-known example is Coca-Cola Life, which was introduced primarily in various European and Latin American nations between 2013 and 2016. Coca-Cola Life was marketed

⁹² "The Italian Parliament Gives New Powers To The Italian Antitrust Authority With Respect To Unfair Commercial Practices And Misleading Advertising Enforcement (Legislative Decrees No. 145 And 146).", *Concurrences*, 2007, <https://www.concurrences.com/en/bulletin/news-issues/september-2007/The-Italian-Parliament-gives-new>, accessed 26 November 2022.

⁹³ "The Lawyer Who Became DuPont's Worst Nightmare.", *The New York Time Magazines*, 2016, <https://www.nytimes.com/2016/01/10/magazine/the-lawyer-who-became-duponts-worst-nightmare.html>, accessed 27 November 2022.

⁹⁴ "DuPont lawsuits (re PFOA pollution in USA).", *Business & Human Rights Resource Centre*, 2001, <https://www.business-humanrights.org/en/latest-news/dupont-lawsuits-re-pfoa-pollution-in-usa/>, accessed 27 November 2022.

as a low-calorie beverage due to the use of stevia as a sweetener instead of sugar. A drink marketed as healthy, with the goal of associating the distinctive brand Coca-Cola with the notions of well-being and health.

The green label was created to indicate and promote natural and sustainable living principles. Coca-Cola Life was rebranded as Coca-Cola Zero Calorie, also with stevia extract, towards the end of 2017, removing the words “Life” and modifying the label. Coca Cola’s greenwashing strategy worked only partially: on one side, consumers searching for a beverage with fewer calories were already pleased by current versions of Coca-Cola Zero and Light. On the other hand, a green label and the use of natural sweeteners were insufficient to transform the brand’s perception in the eyes of its adversaries, who instead used the opportunity to point out that the new product was not as healthy as advertised.

Also, Coca-Cola has taken several steps to eliminate one of its most significant ESG risk factors, water consumption. These measures helped Coca-Cola’s ESG rating via MSCI to reach “AA”, or market leader. However, the company’s method of judging for achieving water neutrality includes water utilised in manufacturing, distribution, and cooling, all of which have made significant progress in lowering consumption. The issue is that most water is used in the agricultural supply chain, primarily in fields to irrigate farmed sugar. This issue is linked to the lack of an ESG reporting standard. The Coca-Cola Company has recently announced a strategy to achieve water security for its business by 2030.⁹⁵ According to an Earth Island Institute complaint⁹⁶, comments about Coca-Cola’s sustainability equal greenwashing and deceptive and misleading advertising. It claims that, despite extensive environmental marketing, the corporation remains the world’s leading generator of plastic trash.⁹⁷ The non-profit report Break Free from Plastic’s Global Cleanup and Brand Audit also named Coca-Cola the company’s top polluter for three consecutive years.⁹⁸

The latter document also mentions other companies such as PepsiCo and Nestlé.

⁹⁵ “Coca-Cola Unveils 2030 Water Security Strategy” The Coca-Cola Company, 2021, <https://www.coca-colacompany.com/news/2030-water-security-strategy>, accessed 17 August 2022.

⁹⁶ “Superior Court of The District of Columbia. Civil Division.”, 2021, [https://www.earthisland.org/images/uploads/suits/Earth.Island_v._Coca-Cola_.Complaint_.\(stamped\)_.pdf](https://www.earthisland.org/images/uploads/suits/Earth.Island_v._Coca-Cola_.Complaint_.(stamped)_.pdf), accessed 27 November 2022.

⁹⁷ “Ground-breaking report reveals hypocrisy of world’s biggest plastic polluters.”, Changing Markets Foundation, 2020, <http://changingmarkets.org/wp-content/uploads/2020/09/Talking-Trash-FINAL.pdf>, accessed 27 November 2022.

⁹⁸ “Demanding Corporate Accountability for Plastic Pollution.”, BFFP, 2020, <https://www.breakfreefromplastic.org/wp-content/uploads/2020/12/BFFP-2020-Brand-Audit-Report.pdf>, accessed 27 November 2022.

In 2018, Nestlé published a statement addressing the growing plastic pollution concern. The company's statement does not contain specific targets for reducing and eventually eliminating single-use plastics, instead stating that its packaging would be 100% recyclable or reused by 2025.⁹⁹ Greenpeace Oceans responded to this announcement by saying Nestlé's statement on plastic packaging is greenwashing to address a situation that creates the same company. They also point out that the report contains imprecise or non-existent goals, is built on aspirations to do differently, and lays the duty for cleaning up the company's plastic pollution on consumers rather than the company. Furthermore, Nestlé was ranked as the worst polluter in an 8-day cleaning and brand audit of plastic waste discovered on Freedom Island in the Philippines in 2017. The company's items are frequently found in cleaning and brand audits conducted worldwide.¹⁰⁰

The most notable and recent example of greenwashing is Tesla. The company invested US\$1.5bn in Bitcoin in January 2021, and in March, it sold a tenth of these assets for a profit of \$101 million, bringing the quarter's net profit to \$438 million. Tesla has improved its balance sheet by breaking its promise not to accept consumer bitcoin payments¹⁰¹. Mining in this situation requires a significant amount of energy, with around two-thirds of that energy produced in China and half of the electricity still supplied by coal-fired power plants, making Bitcoin one of the most significant contributors to pollution.

Tesla is not the only example of greenwashing. Another example is Blackrock, the world leader in the universe of bonds. Blackrock recently endorsed a lawsuit filed by a Procter & Gamble shareholder committee in conjunction with Astra Agro Lestari's purchase of palm oil supply. The firm is a subsidiary of the Indonesian conglomerate Astra International, which has often been accused of failing to meet minimal environmental standards in manufacturing various products, including palm oil¹⁰². Astra Agro Lestari has also been accused of "land grabbing" - the seizure of land at the cost of local farmers. Following that, NGOs Reclaim Finance and Urgewald accused Blackrock of spending up to \$85 billion in coal-related operations.

⁹⁹ "Nestlé aiming at 100% recyclable or reusable packaging by 2025.", Nestlé, 2018, <https://www.nestle.com/media/pressreleases/allpressreleases/nestle-recyclable-reusable-packaging-by-2025>, accessed 27 November 2022.

¹⁰⁰ "Nestlé, Unilever, P&G among worst offenders for plastic pollution in Philippines beach audit.", Green Peace, 2017, <https://www.greenpeace.org/usa/news/nestle-unilever-pg-among-worst-offenders-for-plastic-pollution-in-philippines-beach-audit/>, accessed 27 November 2022.

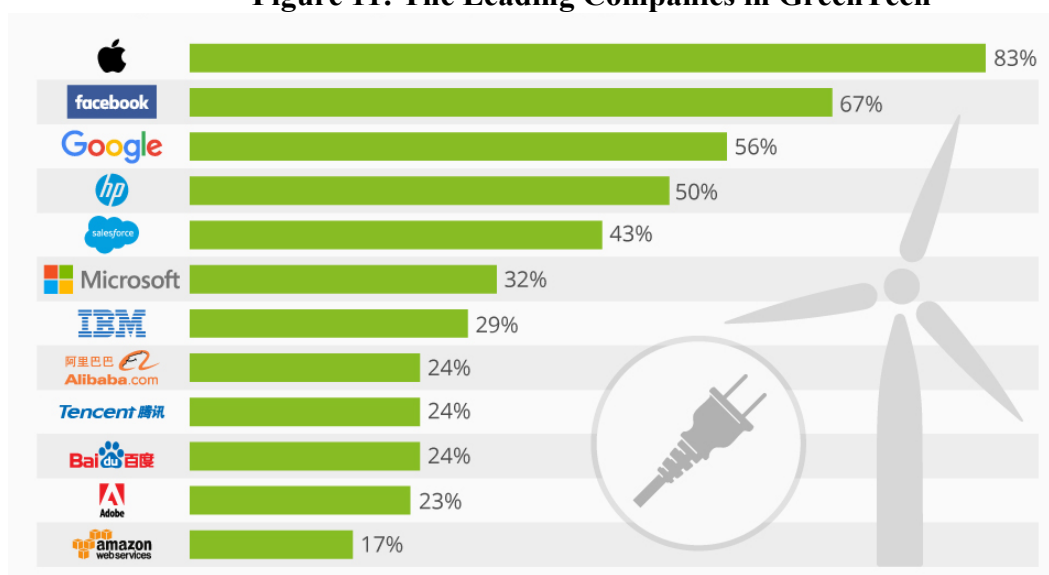
¹⁰¹ "How Green is Tesla, Really?" Forbes, 2021, <https://www.forbes.com/sites/timabansal/2021/05/13/how-green-is-tesla-really/?sh=23839e521576>, accessed 17 August 2022.

¹⁰² "BlackRock accused of ESG inconsistency over Indonesia palm oil" Financial Times, 2021, <https://www.ft.com/content/479b9dd2-c738-4310-8b1e-afdfbd3921b0>, accessed 17 August 2022.

Looking at firms that are becoming more sustainable every year in the tech area, Greenpeace ranks Apple first in its 2017 analysis since 83% of the energy utilized is created utilizing renewable sources.¹⁰³ This makes Apple the most ecologically friendly among the world’s biggest technological businesses for the third year.

Facebook is in the second position with 67%. Facebook and Apple have long been industry leaders in operational openness, releasing frequent and easily accessible statistics on their data centre energy use. According to the analysis, greenwashing has not infected big technology corporations in terms of renewable energy.

Figure 11: The Leading Companies in GreenTech



Source: Greenpeace, statistics from 2017.

Some of the most important cases of greenwashing driven by large companies have been described

It is also crucial to draw attention to the issue of greenwashing in the context of sustainable investments, of which, based on some statistics, one in two are less sustainable than they first appear to be. According to a Financial Times article from August 2021,¹⁰⁴ 72 of the 130 green funds examined—representing a total of 67 billion in invested capital—actually invest in businesses that are not entirely free of fossil fuels.

¹⁰³ “Clicking Clean: Who Is Winning The Race To Build A Green Internet?.”, Greenpeace, 2017, <https://www.greenpeace.org/static/planet4-international-stateless/2017/01/35f0ac1a-clickclean2016-hires.pdf>, accessed 27 November 2022.

¹⁰⁴ “Asset managers told to clean up greenwashing and net zero claims.”, Financial Times, 2017, <https://www.ft.com/content/f1367ab4-ac6f-486d-8bd2-e7659448055d>, accessed 3 January 2023.

The most notable instance of greenwashing currently occurring in Europe was Deutsche Asset & Wealth Management (DWS).

The offices of Deutsche Bank and its subsidiary DWS were searched for possible investment fraud at the end of May. Consequently, Asoka Wöhrmann, the director of DWS, was dismissed. The 2020 budget estimates that more than half of DWS's assets are sustainable. In particular, assets worth a total of 396 billion euros and funds of 94 billion dollars exclusively allocated to this market area were subject to the ESG standards.

Morningstar details the scheme DWS developed to deceive investors.¹⁰⁵ They explained that DWS used what it refers to as the “ESG Engine”, a program driven by data on thousands of firms paired with data and scores from ISS, Morningstar Sustainalytics and MSCI. Following that, a rating was determined using weighted averages. Every investment on the system was given a “Norm Controversy Rating” and a “Climate Risk Rating” both from A to F. Portfolio managers then had access to the outcome. This was sufficient for the board to classify the product prospectuses as “ESG-integrated” even though they were not.

It can be seen that fund names are a potent marketing weapon. ESMA believes that funds that use the terms ESG or sustainability must be backed by documentation of sustainability features or targets that are accurately and consistently incorporated in the fund's investment policies and goals to avoid misleading investors.

A proposal on standards for the use of ESG or sustainability terminology in fund names has now been released by ESMA.¹⁰⁶ One of the key components of the consultation document is to set a percentage threshold for the use of ESG terminology. More specifically, if a fund's name contains any ESG-related terms, at least 80% of its investments must be made in accordance with the investment strategy's legally required elements, as stated in the SFDR Delegated Regulation, in order to meet the fund's environmental, social, or governance goals. Additionally, if a fund's name contains the word *sustainable* or any other term derived from it, at least half of the 80% indicated above must adhere to the SFDR's minimum percentage of sustainable investments.

¹⁰⁵ “DWS and the Global Crackdown on Greenwashing.”, MorningStar, 2022, <https://www.morningstar.co.uk/uk/news/226564/dws-and-the-global-crackdown-on-greenwashing.aspx>, accessed 3 January 2023.

¹⁰⁶ “Consultation Paper On Guidelines on funds' names using ESG or sustainability-related terms.”, ESMA, 2022, https://www.esma.europa.eu/sites/default/files/library/esma34-472-373_guidelines_on_funds_names.pdf, accessed 3 January 2023.

3.6 Conclusion

The need for businesses to be more sustainable and socially responsible by implementing policies to lessen their impact on the environment and the rising awareness of environmental issues among consumers make this a necessity. Participating in responsibility-related activities is also a means to add value and a source of competitive advantage, and over the past several years, more businesses have started doing this.

Many businesses work to strengthen their environmental position by making their environmental initiatives visible to the public as they are aware of the significant benefits. To achieve this, they employ green marketing, creating green campaigns to establish a competitive edge and attract environmentally concerned customers.

This chapter described greenwashing as the exaltation by companies and institutions of their activities as eco-friendly, highlighting the positive effects of some and at the same time avoiding mentioning the negative environmental impact of high.

It has also been seen that the first form of greenwashing appeared in the 1960s concerning the anti-nuclear movement. This practice will then become more widespread over time. After a review of the literature, some of the most prominent cases of greenwashing were analysed.

A distinction has been made in paragraph 3.4 between companies and funds that implement greenwashing.

As for companies, big brands like Coca-Cola and Nestlé were mentioned.

Regarding funds, the most notable instance of greenwashing currently occurring in Europe by Deutsche Asset & Wealth Management (DWS) has been described.

The chapter concludes by analysing the new legislation proposed by ESMA on standards for the use of ESG terminology and the word sustainability in the denominations of funds.

CHAPTER 4

SUSTAINABLE CONSUMPTION AND SUSTAINABLE CONSUMER BEHAVIOUR

4.1 Introduction to sustainable consumption and sustainable consumer behaviour

In consumer societies, consumer behaviour plays a significant mediating role in how individuals affect the environment.

Over the past few decades, global consumption has reached previously unheard-of heights, depleting natural resources, eradicating biodiversity, and accelerating environmental degradation.

People are becoming more conscious that the age of unrestricted consumption is coming to an end and that their actions directly affect the environment and the lives of future generations. The growth in the demand for environmentally friendly products and the pressure on businesses to conduct their operations socially and environmentally responsibly are other signs of the growing concern about environmental challenges.

Given the global environmental issues, there is a need to divert financial flows and engage private investors to fulfil the international climate targets and finance the required energy and economic transformation processes. Therefore, it will be crucial to comprehend investor behaviour in the context of SRI as it will not only have a significant impact on achieving these goals but also on financial markets and polluting companies if their share rises above a particular threshold.

This chapter defines sustainable consumption and analyses sustainable consumer behaviour.

The drivers of environmentally sustainable consumer behaviour will then be examined.

The chapter will conclude by analysing the relationship between sustainable consumers and Socially Responsible Investments.

4.2 Sustainable Consumption

One of the primary goals of the European Union (EU) is sustainable growth. The main issue for producers and consumers is “*doing more with less*” due to a global lack of natural resources. The expression “*doing more with less*” derives from the United Nations, which emphasizes sustainable production and consumption as strategies for increasing economic advantages while

decreasing waste and pollution throughout the production cycle. This calls for a systematic and collaborative approach among the many supply chain participants and increased consumer involvement via awareness-raising and detailed information on standards, labelling, and labels that help consumers choose products.

The EU has implemented a wide range of sustainable consumption, production policies, and initiatives to meet this challenge in a period of rapid climate change and rising demand for energy and resources. They should encourage the need for better products and production technologies and aid consumers in making informed decisions. They should also improve the overall environmental performance of products throughout their life cycle.

Sustainable consumption and production (SCP) are defined as “*the use of related services and products that meet basic needs and improve quality of life while minimizing the use of hazardous natural and material resources and emissions of waste and pollutants throughout the life cycle of the service or product.*” (Rebeka Kovačič Lukman, Peter Glavič, Angela Carpenter, Peter Virtič, 2016)

The concept refers to the moral behaviour of customers who have the power to affect the market through their way of life and spending habits. Sustainable consumption is directly related to the goals of decarbonization and the energy transition, which are essential to enacting real change on a larger scale for the preservation of the environment and the welfare of future generations. The United Nations’ 17 Sustainable Development Goals (SDGs) were covered in the first chapter. It is important to note that goal number 12 seeks to guarantee SCP models.

The 2030 United Nations Agency’s Goal 12 is predicated on several presumptions.¹⁰⁷ First, 1.3 billion tons of food, more than 30% of the world’s food production, are wasted annually. It also needs to consider the excessive use of natural resources, as maintaining the current standard of living would require at least three planets by the year 2050 if there were 9.6 billion people worldwide. Given that only 3% of water resources are fit for human consumption and that 2.5% are currently frozen and found in perennial glaciers, managing drinking water is a highly severe issue. Today, more than 1 billion people lack access to clean drinking water, and in many countries, rivers and lakes are polluted, endangering the availability of water resources.

Along the entire supply chain, the food industry also has substantial issues that severely impact the environment and human health, whether there is overconsumption or not enough access to food. The food industry also uses 30% of the annual energy produced worldwide, contributing 22% to global greenhouse gas emissions. One of the preconditions of Agenda 2030 Objective

¹⁰⁷ “Goal 12: Ensure sustainable consumption and production patterns.”, United Nations, <https://unric.org/en/sdg-12/>, accessed 21 January 2023.

12 is energy management, which needs to address the growing energy demand. One-fifth of the world's carbon dioxide emissions are produced by households, which utilize 29% of the energy used globally. Despite a favourable trend in this direction, renewable energy still only accounts for a small portion of global energy consumption.¹⁰⁸

By encouraging resource and energy efficiency, sustainable infrastructure, and giving access to essential services, green and ethical jobs, and a higher quality of life, this strategy attempts to ensure sustainable consumption and production patterns. The population of the globe now consumes more resources than ecosystems can replenish. Our civilization will need to fundamentally alter how we make and consume commodities if social and economic development is to occur within a sustainability framework.

The Green Consumption Pledge¹⁰⁹, a program that is a part of the European Climate Pact on sustainable production and consumption and is in line with the European Green Deal, was introduced by the European Commission in January 2021.

The European Commission aims to increase businesses' contributions to long-term economic recovery and to increase customer trust in the environmental performance of brands and their products.

Colruyt Group, Decathlon, LEGO Group, L'Oréal, and Renewd are the first companies to sign up for the Green Consumption Pledge's pilot program. Companies must take action in at least three of the five significant commitment areas defined by the European Commission to participate in the project. They clearly outline the tasks to be completed using open, transparent data.

The five main areas of commitment are:

1. Determine the company's carbon footprint, considering its supply chain, using the environmental management methodology created by the Commission, and put in place the necessary due diligence procedures to achieve reductions in line with the goals of the Paris Agreement.
2. Determine each flagship product's carbon footprint to lower associated emissions and inform the public of advancements.

¹⁰⁸ "Obiettivo 12: Garantire modelli sostenibili di produzione e di consumo.", United Nations, <https://unric.org/it/obiettivo-12-garantire-modelli-sostenibili-di-produzione-e-di-consumo/#>, accessed 21 January 2023.

¹⁰⁹ "Sustainable Consumption Pledge.", European Commission, 2021, https://commission.europa.eu/strategy-and-policy/policies/consumers/consumer-protection-policy/sustainable-consumption-pledge_en, accessed 21 January 2023.

3. Raise the proportion of sustainable goods or services sold within the overall sales of the chosen business or industry.
4. Use a portion of your public relation budget to advocate sustainable practices.
5. Ensure that the information offered to customers about the company and the product's carbon impact is clear, accurate, and simple to obtain. In addition, keep this information updated to reflect any changes in footprint size.

Since the first international political agreement on sustainable consumption was signed in 1992 at the United Nations World Conference on Environment and Development in Rio de Janeiro, sustainable consumption has emerged as a significant issue on the international political agenda. Chapter 4 of Agenda 21, "*Changing Consumption Patterns*", discusses sustainable consumption.¹¹⁰ The examination of unsustainable production and consumption patterns and the creation of national policy measures that support changing unsustainable consumption patterns are defined in this part.

Johannesburg hosts the World Summit on Sustainable Development, which takes place ten years after the Rio de Janeiro Conference. Finalizing the World Summit on Sustainable Development Implementation Plan takes place throughout the conference. The Marrakesh approach, a thorough procedure supporting establishing a ten-year framework program on sustainable consumption and production as outlined in the Johannesburg Action Plan, was born a year later during the first biannual international meetings in Marrakech. Seven government task groups, including those for sustainable consumer education, sustainable lifestyles, and sustainable public procurement, are designated to support various nations' work and explain their ideas.

The United Nations Department of Economic and Social Affairs published consumer protection recommendations in 2003.¹¹¹ Promoting sustainable consumption through tools that enable developed countries to establish and implement more sustainable consumption patterns is one of the guidelines' general goals.

¹¹⁰ "United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992. AGenda 21", United Nations, 1992, <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>, accessed 21 January 2023.

¹¹¹ "United Nations Guidelines for Consumer Protection.", United Nations, https://www.un.org/esa/sustdev/publications/consumption_en.pdf, accessed 21 January 2023.

An important document that sets the framework for action 2012-2022 implementing the Marrakesh process addresses sustainable consumption.¹¹² This document reiterates that “*Societies' production and consumption patterns must fundamentally shift if global sustainable development is to be achieved.*” To achieve this, it reaffirms the necessity of using a product life cycle approach. It points out potential areas for intervention, including consumer education, education regarding sustainable lifestyles, and public procurement.

4.3 Sustainable Consumer Behaviour

Researchers have connoted sustainable consumption behaviour (SCB) differently, and it may comprise a wide range of elements and different forms.

“*Customers are considered to be key stakeholders whose needs and preferences strongly influence company plans*”, wrote Aibar-Guzmán and Somohano-Rodríguez in 2021.

Sustainable consumption behaviour is a collection of intentional and successful acts taken by consumers to improve their quality of life, protect the environment, and preserve resources for future generations.

In order to examine sustainable consumption patterns, several models were developed.

The Environmental Attitudes and Knowledge Scale, created by Maloney and Ward, is the first multidimensional scale to assess environmental attitudes and knowledge.¹¹³ It comprises 130 factors that gauge one’s enthusiasm for and devotion to environmental issues and precise understanding of the relevant facts. They show that most people have higher degrees of effect and verbal commitment than actual dedication and knowledge. According to terminology, most people claim to be very motivated and emotionally invested in the issue of reducing pollution, but in reality, they do very little and know even less about it.

A notable model is the SCB-Cube presented by Geiger et al. (2018). The model includes the following areas:¹¹⁴

¹¹² “Paving the way for Sustainable Consumption and Production. The Marrakech Process Progress Report.”, UNEP, 2011, <https://www.oneplanetnetwork.org/sites/default/files/10yfp-pub-marrakechprocess.pdf>, accessed 21 January 2023.

¹¹³ “Environmental Attitudes And Knowledge: An International Comparison Among Business Students.”, Raymond Benton, Jr. & G. Ray Funkhouser, 1994, <https://www.jstor.org/stable/40604033>, accessed 22 January 2023.

¹¹⁴ “Measuring What Matters in Sustainable Consumption: An Integrative Framework for the Selection of Relevant Behaviors.”, Sonja Geiger & Daniel Fischer, 2018, https://www.researchgate.net/publication/317231099_Measuring_What_Matters_in_Sustainable_Consumption_An_Integrative_Framework_for_the_Selection_of_Relevant_Behaviors, accessed 22 January 2023.

- A consumption area comprises different spheres of life, such as food, homes, transportation, fashion, etc.
- A consumption area comprises different stages, not only the acquisition of goods and services but also their use and disposal.
- A sustainability dimension is composed of socio-economic and ecological aspects.
- The impact of ecological and social behaviours.

Numerous scholars concur that environmental knowledge modifies attitudes rather than directly influencing behaviour. Ecological expertise and behavioural intention are positively associated, claim Wang et al. (2017).¹¹⁵

As a result, it is hypothesised that environmental awareness influences consumers' intentions to engage in sustainable consumption. It was also discovered that materialism has a negative impact on behavioural preferences for sustainable consumption.

According to different research, demographic factors including age, gender, income, etc., significantly impact consumers' behaviour. The results are conflicting, particularly concerning how age affects the prevalence of various SCB types. On the one hand, research has shown that older consumers tend to be more environmentally sensitive than younger consumers. Young consumers, as a result, have bad environmental attitudes, little concern for the environment, and little environmental understanding. Similarly, Witek and Kuzniar in 2021 discovered that young people considered their perceived environmental friendliness.¹¹⁶ On the other hand, other research demonstrated that younger people are more ecologically conscious and made judgments after considering the environment. Age may be a significant factor when analysing sustainable consumption, as highlighted by Tripathi and Singh (2016)¹¹⁷; however, there is still room for more research due to discrepancies of this nature in the prior literature.

¹¹⁵ "Correlation Between The Environmental Knowledge, Environmental Attitude, And Behavioral Intention Of Tourists For Ecotourism In China.", Wang et al., 2017, https://www.aloki.hu/pdf/1601_051062.pdf, accessed 22 January 2023.

¹¹⁶ "Green Purchase Behavior: The Effectiveness of Sociodemographic Variables for Explaining Green Purchases in Emerging Market.", Lucyna Witek & Wiesława Kuźniar, 2020, <https://www.mdpi.com/2071-1050/13/1/209>, accessed 22 January 2023.

¹¹⁷ "Determinants of sustainable/green consumption: a review.", Manvendra Singh & Avinash Tripathi, 2016, https://www.researchgate.net/publication/313537837_Determinants_of_sustainablegreen_consumption_a_review, accessed 22 January 2023.

4.4 The drivers of Sustainable Consumer Behaviour

Even though there is little concern that individuals are becoming more aware of environmental challenges on a global scale, there is no evidence to suggest that people's attitudes have altered proportionately. Research has shown that hurdles to buying environmentally friendly items can include a lack of knowledge, high prices, misconceptions about the product's usefulness, availability, and scepticism about environmental promises. Various behavioural theories have been presented to comprehend the factors influencing sustainable consumer behaviour. Fishbein and Ajzen created the Theory of Reasoned Action in 1975 and applied it to recycling and waste control. Ajzen returned to the same in 1991 and developed the Theory of Planned Behaviour.¹¹⁸

These theories focus primarily on how customers are motivated to act as demonstrated by their behavioural intentions, which are seen as the most significant and immediate predicate of actual behaviour. When people feel something is meaningful in and of itself and are consistent with their beliefs, they may be more or less internally motivated to avoid plastic packaging or promote recycling.

Consumers must not only be motivated but also be able to carry out the desired behaviour.

A specific behaviour may require various skills, knowledge, habits, and resources. For example, recycling a package is more straightforward when a customer has developed a recycling habit, and accurately sorting packaging waste requires skill. Lack of information regarding the issue and potential solutions is a psychological obstacle to sustained consumer behaviour. Therefore, behavioural interventions frequently address consumers' interpretation of information and their familiarity and knowledge of products. If consumers feel their actions will impact and promote environmental sustainability, they are more likely to engage in that behaviour.¹¹⁹

According to a study by John Gelissen,¹²⁰ post-materialist ideals, income, education level, and general interpersonal trust are all positively connected with pro-environmental views and eco-friendly conduct. The research also discovered that men and political conservatives, as well as older persons, tend to have poorer environmental attitudes. Higher levels of support for post-materialist ideals, national wealth, and positive growth trends in national wealth are all linked

¹¹⁸ "The theory of planned behavior.", Icek Ajzen, 1991, [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T), accessed 23 January 2023.

¹¹⁹ "How to Improve Consumers' Environmental Sustainability Judgements of Foods.", G. Lazzarini, V.H.M. Visschers, M. Siegrist, 2018, <https://doi.org/10.1016/j.jclepro.2018.07.033>, accessed 23 January 2023.

¹²⁰ "Explaining Popular Support for Environmental Protection: A Multilevel Analysis of 50 Nations.", John Gelissen, 2016, <https://doi.org/10.1177/0013916506292014>, accessed 23 January 2023.

to increased public willingness to make financial sacrifices for the environment at the national level, according to the research.

Other studies have revealed a conflict between a country's wealth and its population's concern for the environment. Differences in how environmental attitudes have been measured across research may explain conflicting findings. For instance, in 2016, Riley Dunlap & Richard York found that people of wealthy nations may report greater engagement in sustainable consumption.¹²¹ This is related to questions about behaviour, such as whether people choose environmentally friendly household products or reduce spending on water use for reasons of the environment. The later may not apply to many people in emerging countries, who may engage in such behaviours out of necessity rather than for environmental reasons.

Consumers claim to give sustainability more consideration in the fashion industry. In a survey conducted by Zalando, 53% of respondents said it was crucial to support companies with moral labour practices, but just 23% said they gave sustainability much thought when buying clothing.¹²²

4.5 Sustainable consumption and Socially Responsible Investments

The traditional economic theory presupposes that only three factors—expected returns, associated risks, and investor liquidity preferences—influence investment decisions. These criteria are given varying weights based on the investor's choices. Return, risk, and liquidity must be seen in the context of their reciprocal interaction and are not independent of one another. While investments with short maturities and low risk typically offer relatively low returns, high returns sometimes go in conjunction with high-risk or long investment periods. However, these conventional economic ideas have limitations in light of the growing sustainability demands, which are not reflected in these considerations but are instead imposed by many stakeholders, including some shareholders.

Private investors in this situation seek assets that are consistent with their ideals rather than making judgments solely based on financial considerations.

¹²¹ “The Globalization of Environmental Concern and The Limits of The Postmaterialist Values Explanation: Evidence from Four Multinational Surveys.”, Riley Dunlap & Richard York, 2016, <https://doi.org/10.1111/j.1533-8525.2008.00127.x>, accessed 23 January 2023.

¹²² “Attitude-Behavior Gap Report. How the industry and consumers can close the sustainability Attitude-Behavior Gap in fashion.”, Zalando, 2021, <https://corporate.zalando.com/en/our-impact/sustainability/sustainability-reports/attitude-behavior-gap-report>, accessed 24 January 2023.

Private capital must be diverted toward sustainable investments to attain the investment size needed to meet the EU's climate and energy ambitions. The EU's ten-point action plan on financing sustainable growth aims to promote greater socially responsible investment (SRI) in the retail sector, including sustainability in investment guidance provided to ordinary clients. According to research by Gutsche & Zwergel,¹²³ a sizeable percentage of prospective investors claim that they do not (yet) invest sustainably owing to a lack of supply from their present financial service provider and a perception that they are not adequately knowledgeable about the topic.

Strong general social preferences and sustainability awareness are good predictors of sustainable investment preferences, according to a study by Reidl & Smeets.¹²⁴

With few exceptions, stated preferences have dominated the contemporary literature on sustainable investment preferences. However, Carrington, Neville, and Whitwell observed that people frequently make unrealistic statements when it comes to sustainable lifestyle choices.¹²⁵

According to Ann-Christine Brunen and Oliver Laubach, only consumers who are open about their commitment to sustainability are intrinsically motivated to make sustainable investments.¹²⁶ Conversely, consumers who are more likely to question the benefits of sustainable investing are unwilling to forego financial gains to support sustainable development. Their conclusions for general consumers align with the idea of making sustainable investments to make up for less sustainable purchase patterns.

The findings of Oliver Laubach and Ann-Christine Brunen also show a significant impact of financial expectations on the choice to invest sustainably. First, they contend that individuals are more inclined to invest in SRI if they anticipate sustainable investments to yield larger financial returns than traditional investments.

¹²³ "Which private investors are willing to pay for sustainable investments? Empirical evidence from stated choice experiments.", Gunnar Gutsche & Andreas Ziegler, 2019, <https://doi.org/10.1016/j.jbankfin.2019.03.007>, accessed 24 January 2023.

¹²⁴ "Why Do Investors Hold Socially Responsible Mutual Funds?", Arno Riel & Paul Smeets, 2017, <https://doi.org/10.1111/jofi.12547>, accessed 24 January 2023.

¹²⁵ "Lost in translation: Exploring the ethical consumer intention-behavior gap.", Michal J. Carrington, Benjamin A. Neville, Gregory J. Whitwell, 2014, <https://doi.org/10.1016/j.jbusres.2012.09.022>, accessed 24 January 2023.

¹²⁶ "Do sustainable consumers prefer socially responsible investments? A study among the users of robo advisors.", Ann-Christine Brunen & Oliver Laubach, 2022, <https://doi.org/10.1016/j.jbankfin.2021.106314>, accessed 24 January 2023.

4.6 Conclusion

In contrast to a few years ago, when socially conscious and sustainable investments used to require a particularly ethical field, sustainability is now a crucial component for any business seeking to succeed in the market and engage with investors.

In contrast to a few years ago, when socially conscious and sustainable investments used to require a particularly ethical field, sustainability is now a crucial component for any business seeking to succeed in the market and engage with investors.

In this chapter, sustainable consumption was described. It was connected to the concept of the 2030 agenda analysed in the first chapter.

Subsequently, Sustainable Consumer Behaviour was analysed to understand the motives that push people to have a sustainable lifestyle. Studies have shown that post-materialist ideals, income, education level, and general interpersonal trust are all positively connected with pro-environmental views and eco-friendly behaviours.

In the last paragraph, I connect sustainable consumption and sustainable investment choices (SRI).

According to some studies, risk and return are two phenomena that investors consider the most when choosing a sustainable investment.

On the other hand, there needed to be more information regarding this last category of investment. Indeed, many scholars point to the fact that people are willing to have a sustainable lifestyle but are unwilling to invest sustainably for several reasons, such as lack of information, risk aversion or lack of interest.

CHAPTER 5

EMPIRICAL ANALYSIS: THE RELATIONSHIP BETWEEN SUSTAINABLE CONSUMPTION AND SUSTAINABLE INVESTMENT

5.1 Introduction to the research

This last chapter focuses on an empirical analysis developed to explore the literature on sustainable finance and consumption was analysed in the first four chapters. The regulations governing the latter have been studied and so have problems related to the continuous development of the concept of sustainability, such as greenwashing.

The last chapter focused on the relationship between sustainable consumption and sustainable investment. What emerged was that people are willing to have a sustainable lifestyle but are unwilling to invest sustainably. This is for several reasons, such as lack of information, risk aversion or lack of interest. In addition, numerous studies have noted that most people claim to be very motivated and emotionally invested in the issue of sustainability, but in reality, they do very little and know even less about it.

My research wants to deepen this link between consumption and sustainable investments.

The sustainability issue is affecting more people, but are they also aware that it is possible to contribute to this problem with sustainable finance?

The survey I developed, therefore, has four main objectives:

- Investigate how the awareness of the importance of sustainability in their consumption choices influences consumer purchasing decisions.
- Investigate whether consumers who believe they have a sustainable lifestyle are willing to invest in sustainable funds.
- Investigate the general knowledge in terms of sustainable investments.
- Investigate how the risk/return ratio affects sustainable investment choices.

Hypothesis:

Hypothesis 1: The starting price negatively affects the willingness to pay for a sustainable product, even if the person carries out a sustainable lifestyle.

Hypothesis 2: Young people have more knowledge of sustainable investment and are also those who invest more sustainably.

Hypothesis 3: Lack of knowledge and information about sustainable investments makes them seem much riskier than conventional investments

5.2 Empirical Analysis

Data collection method

I composed a questionnaire using the Qualtrics website.

The questionnaire was written in Italian and then translated into English; both were distributed via anonymous links.

The time interval was one week; the questionnaire was published on 26 January 2023 and closed on 2 February 2023.

The questionnaire was divided into seven sections. The first two sections were designed to acquire demographic information about the study sample. General information such as age, gender, and sources of income has been requested. In addition, personality questions were administered following the Big-Five model.¹²⁷

In the third section, I wanted to include questions about risk aversion to analyse whether respondents are against it.

The fourth section included open-ended questions where respondents had to indicate how much they were willing to pay for a sustainable product and how much the return on the sustainable fund would have to be to make them invest in it.

The fifth part refers to the relationship between risk and returns on sustainable and conventional investments, and the sixth section with general questions regarding sustainable habitats. The last section instead consists of questions on sustainable finance to test its knowledge. The full questionnaire can be found in Appendix I.

The questions, the sequence, and the answers to choose from were the same for all respondents.

The sample consists of 200 responses exported to Excel and checked for insertion errors.

Minor typing errors were found in the open answers, such as using the dot as a decimal separator instead of the comma. These mistakes were easily fixed.

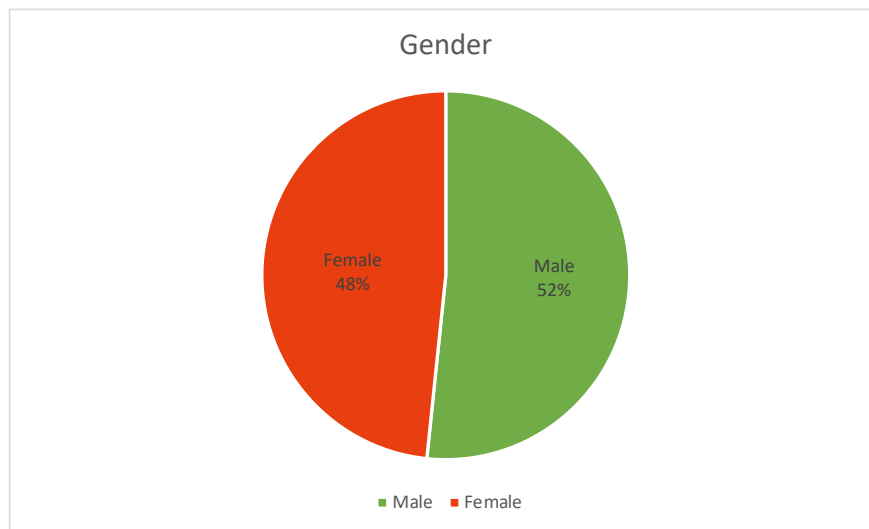
¹²⁷ Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A Very Brief Measure of the Big Five Personality Domains. *Journal of Research in Personality*, 37, 504-528.

Some insertion errors were found, which led to the exclusion of 18 questionnaires. The final sample thus consists of 182 valid responses.

Data analysis

The sample proved to be reasonably balanced from the point of view of gender. In fact, 48% of respondents are female, and 52% are male, as seen in graph 1.

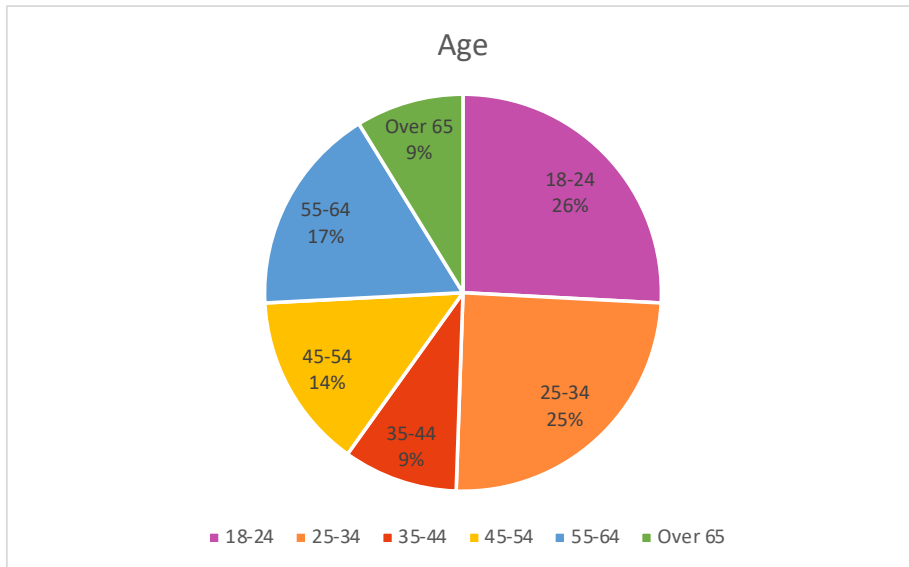
Graph 1: Gender



As for the distribution of age groups, most participants are between 18-24 with 26% and between 25-34 with 25%. Participants aged 35-44 and over 65 represent the lowest percentage, 9%, for each category.

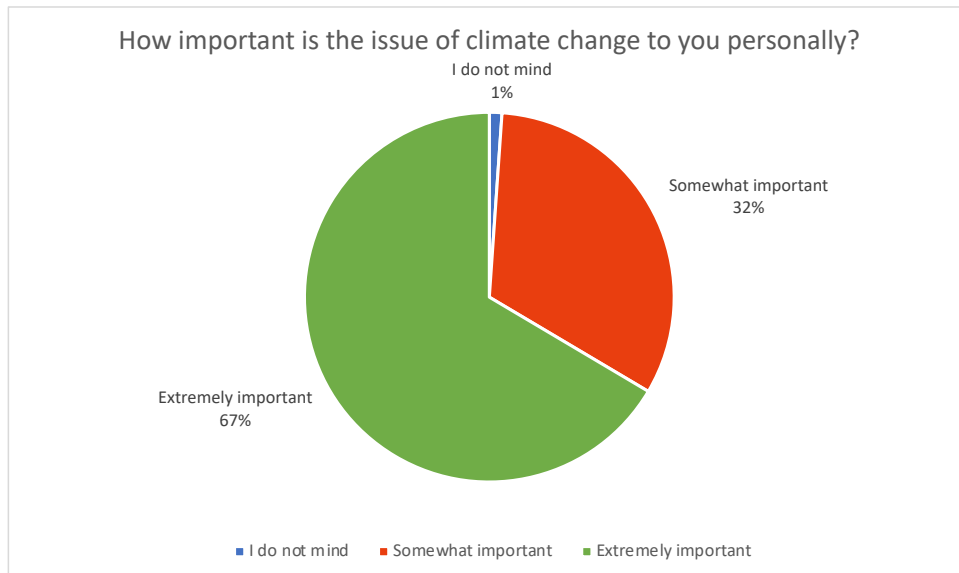
The other age groups are 45-54, with a percentage of 14%, and 55-64, with a portion of 17%.

Graph 2: Age



Participants were asked to indicate how significant the problem of climate change was to them, being able to choose between three options such as “I do not mind”, “somewhat important”, and “extremely important”.

Graph 3: Importance of climate change



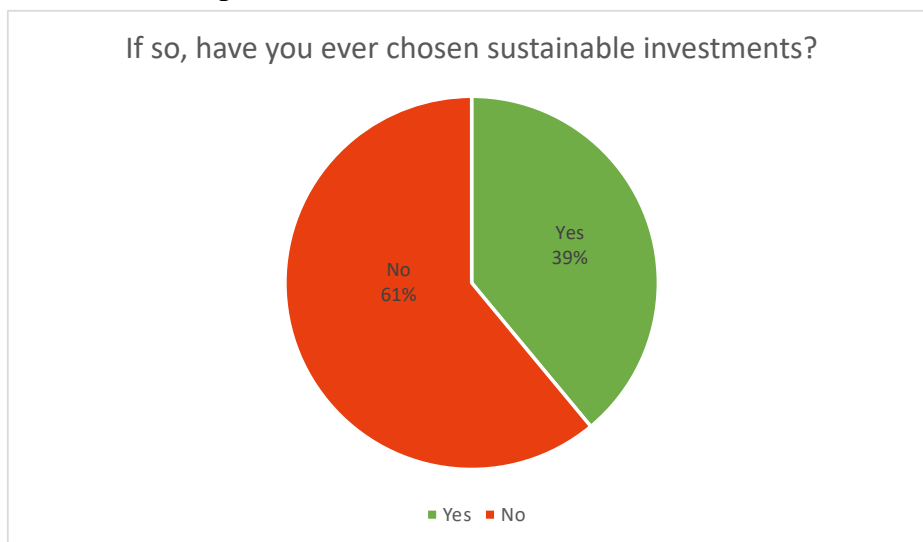
As can be seen from Graph 3, only 1% of participants responded that they had no interest in it, while 99% said that the problem of climate change is important/extremely important. They were then asked whether they had ever invested money and, if so, whether they had ever chosen sustainable investments.

Graph 4: Investment decision



65% declare they have invested money, while 35% say they have never invested.

Graph 5: Sustainable investment decision



Of those 65%, only 39% say they have chosen sustainable investments.

In this case, it is crucial to make a statistical inference to analyse how the data is divided.

Table 1: Relation between investment decision, age, and gender

Row Labels	18-24	25-34	35-44	45-54	55-64	Over 65
Female	28	20	6	13	15	6
No	19	9	2	2	5	
Yes	9	11	4	11	10	6
Male	19	25	11	13	16	10
No	11	13	1		1	1
Yes	8	12	10	13	15	9
Grand Total	47	45	17	26	31	16
Total "Yes"	17	23	14	24	25	15
Total Percentage	36.2%	51.1%	82.4%	92.3%	80.6%	93.8%
Male Percentage	47.1%	52.2%	71.4%	54.2%	60.0%	60.0%
Female Percentage	52.9%	47.8%	28.6%	45.8%	40.0%	40.0%

Table 1 shows that those surveyed in the Over 65 group invest the most.

Among the over 65 respondents, 93.8% invested money. Among them, 60% are men, and 40% are women.

In the 45-54 age group, 92.3% of respondents stated they invested money; men accounted for 54.2%, and women for 45.8%. It can also be seen that all the men interviewed declared they were investing money.

The age group investing the least is the youngest, with a percentage of 36.2%. As for the gender division, it is noted that women invest slightly more than men, with 52.9% against 47.1%.

A substantial difference in investment ratio to gender is found in the 35-44 age group. In this group, 82.4% of respondents stated they had invested money, of which 71.4% were men.

In the 55-64 age group, similar percentages are highlighted; 80.6% of respondents invest money, with a prevalence of 60% of men.

Lastly, 51.1% of the 25-34 age group state they invest money, and as far as the gender division is concerned, there are no significant differences as men are 52.2% and women are 47.8%.

I wanted to make a more considerable inference and analyse how many respondents chose sustainable investments, dividing them by age and gender.

Table 2: Relation between sustainable investment decision, age, and gender

Row Labels	18-24	25-34	35-44	45-54	55-64	Over 65
Female	9	11	4	11	10	6
No		3	2	9	7	4
Yes	9	8	2	2	3	2
Male	8	12	10	13	15	9
No	1	6	8	11	12	9
Yes	7	6	2	2	3	
Grand Total	17	23	14	24	25	15
Total "Yes"	16	14	4	4	6	2
Total Percentage	94.1%	60.9%	28.6%	16.7%	24.0%	13.3%
Male Percentage	43.8%	42.9%	50.0%	50.0%	50.0%	0.0%
Female Percentage	56.3%	57.1%	50.0%	50.0%	50.0%	100.0%

Table 2 takes the positive data in Table 1 and analyses how many respondents have chosen sustainable investments. The total number of respondents investing money is 118, of which only 46 said they had chosen sustainable investments.

In this case, the youth class is the one that prevails. 94.1% of them stated they had chosen sustainable investments, of which 56.3% were women and 43.8% were men.

Following is the age group 25-34, where 60.9% invested sustainably, with a prevalence of women at 56.3% and men at 42.9%.

Only 28.6% of the 35-44 age group declared they had chosen sustainable investments, of which 50% are men and 50% are women.

It can be seen that as we go on with the age groups, the percentage goes down, except for the 55-64 class, where 24% of respondents stated they invested sustainably; here, too, there is no difference between men and women.

The class that has chosen sustainable investments least is that of the over 65, where only 13.3% say they have made them. Of this, 13.3% are women.

Given the low percentage of sustainable investments, I wanted to make a further analysis.

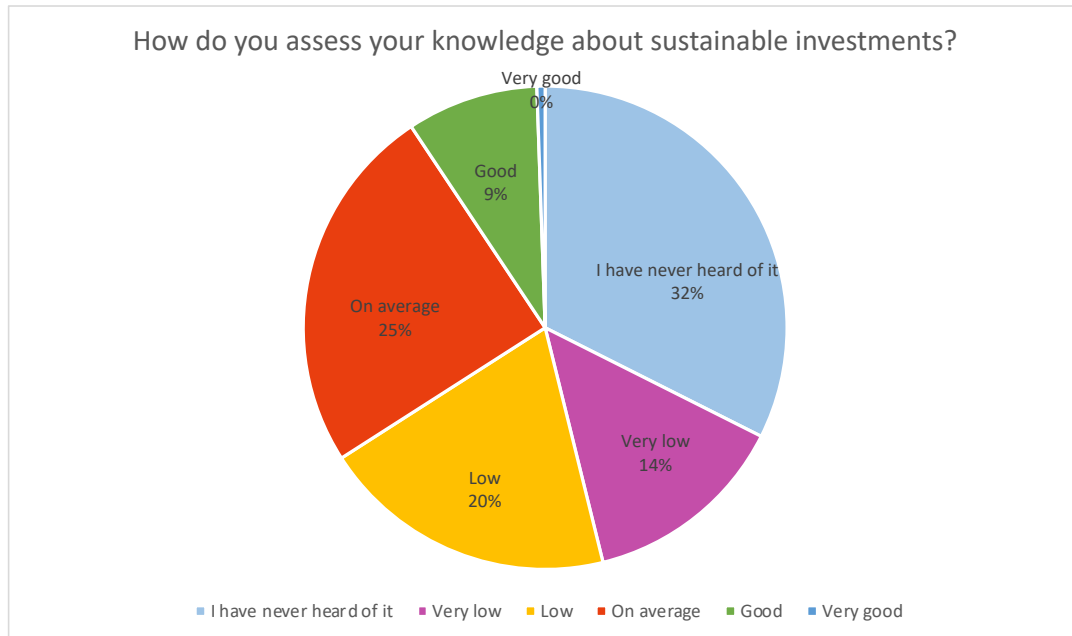
Participants were asked to assess their knowledge of sustainable investment. Respondents had to choose between:

- *I have never heard of it*
- *Very low*
- *Low*

- *On average*
- *Good*
- *Very good*

The answers are shown in Graph 6.

Graph 6: Knowledge about sustainable investments



The highest percentage is from the respondents who have never heard of sustainable investments, which amounts to 32%.

No one claims to have excellent knowledge, and only 9% claim good knowledge. 25% recognise that they have average knowledge, 20% low and 14% very low.

It is essential to analyse again how age and gender affect these results. Moreover, it is interesting to analyse the correlation between knowledge of sustainable investments and investments made.

Table 3: Relation between knowledge of sustainable investments, age, and gender.

Row Labels	18-24		25-34		35-44		45-54		55-64		Over 65	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Good	4	4	2	3			1	1	1			
I have never heard of it	5	2	5	4	2	3	5	6	5	10	3	9
Low	5	4	4	10	2	4	3		2	2		
On average	11	7	9	4	2	2	2		3	3	2	
Very good				1								
Very low	3	2		3		2	2	6	4	1	1	1
Grand Total	28	19	20	25	6	11	13	13	15	16	6	10
Total	47		45		17		26		31		16	
"Good" Percentage	8.5%	8.5%	4.4%	6.7%	0.0%	0.0%	3.8%	3.8%	3.2%	0.0%	0.0%	0.0%
"I have never heard of it" Percentage	10.6%	4.3%	11.1%	8.9%	11.8%	17.6%	19.2%	23.1%	16.1%	32.3%	18.8%	56.3%
"Low" Percentage	10.6%	8.5%	8.9%	22.2%	11.8%	23.5%	11.5%	0.0%	6.5%	6.5%	0.0%	0.0%
"On average" Percentage	23.4%	14.9%	20.0%	8.9%	11.8%	11.8%	7.7%	0.0%	9.7%	9.7%	12.5%	0.0%
"Very good" Percentage	0.0%	0.0%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
"Very low" Percentage	6.4%	4.3%	0.0%	6.7%	0.0%	11.8%	7.7%	23.1%	12.9%	3.2%	6.3%	6.3%

Table 3 shows that only a man between 25-34 years of age declares to have a very good knowledge of sustainable investments.

The age group 18-24 claims 38.3% to have average knowledge, of which women for 23.4% and men 14.9%.

Only 17% say they have good knowledge, and 14.9% have never heard of it.

Analysing the 25-34 age category, 20% say they have never heard of it, and only 11.1% have good knowledge.

In the over-65 age group, 75.1% have no knowledge of sustainable investments, of which 56.3% are men. Only a small percentage, 12.5%, say they have average knowledge.

It shows that as age groups advance, the percentage of respondents who have no knowledge of sustainable investment increases. This is in line with Table 2. In fact, only 13.3% of the over 65 chose sustainable investments and 24% for the 55-64 category.

In more detail, it is interesting to analyse the relationship between knowledge of sustainable investments and their actual investment.

In Table 4, data from respondents who stated that they had chosen sustainable investments were taken into account and the answers to the question *“How do you assess your knowledge about sustainable investments?”*

Table 4: Relation between respondent that invests sustainable, knowledge about sustainable investments, age, and gender.

Gender	18-24	25-34	35-44	45-54	55-64	Over 65
Female	9	8	2	2	3	2
Good	4	1		1		
Low			1		1	
On average	5	7	1	1	2	2
Male	7	6	2	2	3	
Good	3	1		1		
On average	3	3	2		3	
Very good		1				
Very low	1	1		1		
Grand Total	16	14	4	4	6	2
"Good" Percentage	43.8%	14.3%	0.0%	50.0%	0.0%	0.0%
"I have never heard of it" Percentage	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
"Low" Percentage	0.0%	0.0%	25.0%	0.0%	16.7%	0.0%
"On average" Percentage	50.0%	71.4%	75.0%	25.0%	83.3%	100.0%
"Very good" Percentage	0.0%	7.1%	0.0%	0.0%	0.0%	0.0%
"Very low" Percentage	6.3%	7.1%	0.0%	25.0%	0.0%	0.0%

Table 4 shows that most respondents who stated they had chosen sustainable investments have average knowledge.

The data that most diverges from the total average of respondents relate to the age group 18-24; in fact, 43.8% of people who invest sustainably say they also have good knowledge.

To test the relationship between sustainable consumption and sustainable investment, I wanted to test the willingness to pay for a sustainable product with the same characteristics as a conventional unsustainable one. The price of the conventional non-sustainable product was known, and respondents had to declare how much they were willing to pay for the sustainable product.

The question was also structured to assess whether the known price affects the final answer.

Question 1: The price of a black cotton t-shirt not produced by a sustainable supply chain is €5 (product A). How much are you willing to pay for a black organic cotton t-shirt from a sustainably certified supply chain? (Product B)

Table 4: 5€ T-Shirt statistics

5€ T-Shirt	
Mean	13.940
Standard Error	0.4789
Median	15
Mode	15
Standard Deviation	6.4602
Sample Variance	41.734
Kurtosis	5.3436
Skewness	1.7181
Range	46
Minimum	4
Maximum	50
Sum	2537
Count	182

Table 4 summarises the results for question 1.

The average is €13.94 with a standard deviation of 6.46. Knowing that the price of the unsustainable shirt is €5, respondents are willing to pay an average of 2.79 times more. This result also explains the high value of the standard deviation.

The minimum value recorded is €4, while the maximum is €50.

Kurtosis is 5.3436, hence more significant than three. This indicates that the dataset has heavier tails than a normal distribution. The value is close to 6 and therefore shows a considerable departure from normality.

Some outliers brought the value of Kurtosis to be high; this can be seen from the fact that some respondents claimed to be willing to pay €50 for the sustainable shirt. In addition, Skewness is greater than 1, indicating that the data are highly skewed.

Question 2: The Price of a 50% wool sweater is €50 (product A). How much are you willing to pay for a 100% wool sweater from a certified sustainable supply chain? (Product B)

Table 5: 50€ Sweater statistics

<i>€50 Sweater</i>	
Mean	93.275
Standard Error	2.054
Median	90
Mode	80
Standard Deviation	27.7130
Sample Variance	768.0125
Kurtosis	2.8825
Skewness	0.9228
Range	193
Minimum	7
Maximum	200
Sum	16976
Count	182

Table 5 summarises the results for question 2.

The average is €93.27, with a very high standard deviation of 27.71.

In this case, knowing that the price of the unsustainable sweater is €50, respondents are willing to pay almost double.

The minimum price that respondents are willing to pay is €7, while the maximum is €200.

Kurtosis, in this case, is lower because values were much lower than the average. Skewness is less than 1, indicating that the distribution is moderately skewed.

Question 3: The price of an eco-leather bag is €150 (product A). How much are you willing to pay for an eco-leather bag from a certified sustainable supply chain? (Product B)

Table 6: 150€ Bag statistics

<i>€150 Bag</i>	
Mean	172.989
Standard Error	2.809
Median	175
Mode	150
Standard Deviation	37.8949
Sample Variance	1436.0220
Kurtosis	10.2494
Skewness	0.6951
Range	400
Minimum	0
Maximum	400
Sum	31484
Count	182

The average is €172.99 with a high standard deviation of 37.8949. The high value is due to the presence of outliers; it is noted that some respondents stated they did not want to pay any price for the sustainable bag and therefore entered a price of €0. The maximum price was instead of €400.

The presence of excessively low prices has ensured that the value of Kurtosis is equal to 10.249. In this case, knowing that the bag's price is €150, respondents are willing to pay, on average, only a small percentage more than the starting price.

After these three analyses, it can be seen how the starting price affects the final response. In the case of a product with a low cost, the interviewee is willing to pay, on average, even almost three times more. In the case with the highest price, however, respondents are willing, on average, to pay the same price.

Similar applications were also made in relation to the propensity to invest in sustainable funds. Again, the return on the conventional fund was provided, and respondents were asked to indicate how much the return on the sustainable fund should be in order for them to decide to invest in it.

It was also specified that both investment funds had the same value in the risk/return category, as indicated in the document summarising their main information.

Question 4: Fund A has an expected annual net return of 2.5%. In order for me to invest in Fund B, its return should be

Table 7: 2.% Fund statistics

2.5% Fund	
Mean	3.7335
Standard Error	0.3384
Median	3
Mode	3
Standard Deviation	4.5659
Sample Variance	20.8472
Kurtosis	79.9658
Skewness	8.6355
Range	49.5
Minimum	0.5
Maximum	50
Sum	679.5
Count	182

Table 7 describes the statistics for question 4. The average is 3.73%, and it can be seen that the value of the standard error is low, showing that sample means are closely distributed around the population mean.

Again, the value of Kurtosis is very high due to the presence of outliers.

In fact, analysing the maximum and minimum values, we can see that the highest percentage that has been declared is 50%. There are two outliers in this sample, 40% and 50%. These two extremely high values have caused high values of Kurtosis and Skewness.

Question 5: Fund A has an expected annual net return of 10%. In order for me to invest in Fund B, its return should be ___%

Table 8: 10% Fund statistics

10% Fund	
Mean	11.6547
Standard Error	0.3340
Median	11
Mode	10
Standard Deviation	4.5060
Sample Variance	20.3037
Kurtosis	36.8076
Skewness	4.5666
Range	49.94
Minimum	0.06
Maximum	50
Sum	2121.16
Count	182

Table 8 summarises the data for question 5.

In this case, the average is 11.65%, with a standard error value similar to the previous one. In this scenario, Kurtosis is high, always due to the problem of outliers. In fact, the maximum percentage indicated was 50% and the minimum was 0.06%. Among the abnormal values, there were 50%, 40%, 20% and 0.06%.

In this context, it is interesting to make further analysis.

It is interesting to analyse how respondents who invest sustainably and believe they have good or average knowledge responded.

In questions 4 and 5, it was indicated that both investment funds have the same value in the risk/return category; therefore, the respondent should have been indifferent between choosing one fund over the other.

Table 9: Relation between knowledge about sustainable investments, age and response to questions 4 and 5.

	18-24		25-34		35-44		45-54		55-64	
	2.5% Fund	10% fund	2.5% Fund	10% fund	2.5% Fund	10% fund	2.5% Fund	10% fund	2.5% Fund	10% fund
I have never heard of it	3.79	13.14	3.5	12.11	3.8	12.5	3.95	12.27	4.37	13.73
Very low	2.9	10.8	2.67	10.33	4	12	3.13	11.06	3	12.8
Low	2.23	9.12	2.86	10.75	3.25	12	2.67	7.67	2.75	11.25
On average	2.96	9.28	2.82	10.62	12.75	19.5	2.5	9.25	10.08	14.58
Good	2.53	9.31	2.5	9.7			3.1	10.25	2.5	10
Very good			5	20						

Table 9 gives the average answers to questions 4 and 5 by age and knowledge of sustainable investment.

On average, as knowledge increases, the average of the answers gets closer and closer to the real values (2.5% and 10%).

In the development of this table, it can better notice the outliers; these correspond to the boxes highlighted in yellow.

Without considering the latter, as awareness of sustainable investment increases, the average response is close to the percentage of the conventional fund.

These responses can also be assessed in relation to the perception of risk/return on sustainable investments.

Respondents were asked how they expected the risk and return on sustainable investments to be compared to conventional ones. They had five options:

- *Much lower*
- *Somewhat lower*
- *The same*
- *A little higher*
- *Much higher*
- *I don't know*

Table 10: Relation between sustainable investments return, age, and gender.

Values	18-24		25-34		35-44		45-54		55-64		Over 65		
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	
A little higher	3	4	2	5	1		4		5	2	1		
I don't know				1			1		2		1	1	
Much higher	1		1		1								
Much lower	2			1	1	1	1	3			3	2	7
Somewhat lower	6	7	7	8	2	8	6	9	5	10	1	2	
The same	16	8	10	10	1	2	1	1	3	1	1		
Grand Total	28	19	20	25	6	11	13	13	15	16	6	10	
Total	47		45		17		26		31		16		
"A little higher" percentage	6.4%	8.5%	4.4%	11.1%	5.9%	0.0%	15.4%	0.0%	16.1%	6.5%	6.3%	0.0%	
"I don't know" percentage	0.0%	0.0%	0.0%	2.2%	0.0%	0.0%	3.8%	0.0%	6.5%	0.0%	6.3%	6.3%	
"Much higher" percentage	2.1%	0.0%	2.2%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
"Much lower" percentage	4.3%	0.0%	0.0%	2.2%	5.9%	5.9%	3.8%	11.5%	0.0%	9.7%	12.5%	43.8%	
"Somewhat lower" percentage	12.8%	14.9%	15.6%	17.8%	11.8%	47.1%	23.1%	34.6%	16.1%	32.3%	6.3%	12.5%	
"The same" percentage	34.0%	17.0%	22.2%	22.2%	5.9%	11.8%	3.8%	3.8%	9.7%	3.2%	6.3%	0.0%	

Table 10 shows the relationship between performance, age, and gender.

In the 18-24 age group, most respondents argue that the return on conventional and sustainable investments is the same, totalling 51%. Table 9 shows that the dispersion in category 18-24 is very limited since the values approach 2.5% and 10%, respectively.

Going back to analyse table 10, also in the category of age 25-34, the thought is prevalent that conventional and sustainable investments have the same return. In fact, there is a percentage of 44%, slightly lower than the previous age category. In this case, 33.4% argue that the return on sustainable investment is somewhat lower.

In the 35-44 age group, 58.9% stated that the return on sustainable investment is somewhat lower than conventional investment.

It can be seen that an increase in age groups results in a decrease in the percentage of respondents who argued that there is no difference in performance between the two types of performance. This difference is especially noticeable in the Over 65 range, where only 6.3% claim that the return is the same. 56.3% even argue that the return on sustainable investments is much lower than conventional ones.

Table 11: Relation between sustainable investments risk, age, and gender.

Values	18-24		25-34		35-44		45-54		55-64		Over 65	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
A little higher	7	6	5	8	3	4	4		4	2		
I don't know							1		2		1	1
Much higher	3	1	1	4	1	5	4	10	2	10	3	9
Much lower	1	2	1				1	1		2		
Somewhat lower	3	1	3	4			1			1	1	
The same	14	9	10	9	2	2	2	2	7	1	1	
Grand Total	28	19	20	25	6	11	13	13	15	16	6	10
Total	47		45		17		26		31		16	
"A little higher" percentage	14.9%	12.8%	11.1%	17.8%	17.6%	23.5%	15.4%	0.0%	12.9%	6.5%	0.0%	0.0%
"I don't know" percentage	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%	6.5%	0.0%	6.3%	6.3%
"Much higher" percentage	6.4%	2.1%	2.2%	8.9%	5.9%	29.4%	15.4%	38.5%	6.5%	32.3%	18.8%	56.3%
"Much lower" percentage	2.1%	4.3%	2.2%	0.0%	0.0%	0.0%	3.8%	3.8%	0.0%	6.5%	0.0%	0.0%
"Somewhat lower" percentage	6.4%	2.1%	6.7%	8.9%	0.0%	0.0%	3.8%	0.0%	0.0%	3.2%	6.3%	0.0%
"The same" percentage	29.8%	19.1%	22.2%	20.0%	11.8%	11.8%	7.7%	7.7%	22.6%	3.2%	6.3%	0.0%

Table 11 shows the relationship between risk, age, and gender. Also, in this case, it can be noted that the majority of the age category 18-24 states that the risk of conventional investments is the same as sustainable ones, with a percentage of 48.9%. 27.7% think that sustainable investment has a slightly higher risk.

42.2% of the respondents in the 25-34 age group say that the risk is the same, while 28.9% say that the risk of sustainable investments is a little higher. In these first two age groups, only a small percentage, about 10%, believes that sustainable investments are much riskier than conventional ones.

Again, increasing the age groups increases the percentages.

Taking into account the age group 45-54, 53.9% of respondents argue that sustainable investments are much riskier. This percentage increases to 75.1% in the Over 65 class.

In fact, only 15.4% in the 45-54 class state that the risk is the same and only 6.3% for the over 65 category.

Comparing the data in Tables 10 and 11, it can be seen that there is an inverse relationship between risk and return.

The relationship between risk and return is an indicator to be taken into account: generally, the higher the level of risk associated with an investment, the higher the expected return. This is the so-called trade-off risk-return.

Usually, as the risk increases, the return should increase accordingly, while in this case, respondents argue that sustainable investments have a very high risk but a very low return.

This conclusion can be seen above all in the older age groups.

In fact, in the over-65 class, 75.1% claim that the risk is high and at the same time, 56.3% claim that the return is very low.

The same cannot be said for the age group 18-24, where there is a positive relationship. In fact, 27.7% stated that the risk is a little higher, and 14.9% expect a slightly higher return.

As a last analysis, it is interesting to find out if those who claim to have chosen sustainable investments also have a propensity to sustainable consumption.

The questionnaire includes general questions about sustainable consumption. It was asked how important the country of origin, the social responsibility of the producer and the impact of production on the environment were for the interviewee. The possibilities of answer have been five:

- *Not at all*
- *Little*
- *Moderately*
- *Much*
- *Very much*

Table 12: Relation between respondent that invests in sustainability, impact of production on the environment, age, and gender.

Impact of production on the environment	18-24		25-34		35-44		45-54		55-64		Over 65
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Moderately					1		1				
Much	5	6	5	6		2		1	3	1	1
Very much	4	1	3	6	1		1	1		2	1
Grand Total	9	7	8	6	2	2	2	2	3	3	2

Table 13: Relation between respondent that invests in sustainability, social responsibility of producers, age, and gender.

Social responsibility of producers	18-24		25-34		35-44		45-54		55-64		Over 65
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Little		1									
Moderately		3		4	1	2	1				
Much	8	2	7	1	1			1	3	1	1
Very much	1	1	1	1			1	1		2	1
Grand Total	9	7	8	6	2	2	2	2	3	3	2

Table 14: Relation between respondent that invests in sustainability, country of origin, age, and gender.

Country of origin	18-24		25-34		35-44		45-54		55-64		Over 65
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Little		1		1				1			
Moderately	1	3		2	2	1			1		1
Much	7	2	7	3		1			2	3	1
Very much	1	1	1				2	1			
Grand Total	9	7	8	6	2	2	2	2	3	3	2

Tables 12, 13 and 14 show that those who have invested sustainably also have a focus on sustainable consumption.

As far as Table 12 is concerned, 14 out of 46 respondents said that when they buy a product, they pay close attention to the impact of production on the environment.

However, 25 respondents claimed they were very concerned about the social responsibility of the producer and 26 with the country of origin.

5.3 Conclusion of hypotheses

Hypothesis 1: The starting price negatively affects the willingness to pay for a sustainable product, even if the person carries out a sustainable lifestyle.

It has been noted that the starting price influences the willingness to pay for a sustainable product. If the starting price is very low, consumers are willing to pay a higher price; if the starting price is high, consumers are willing to pay the same price for both sustainable and conventional products.

This cognitive bias was also found in respondents who claimed to invest sustainably and make a sustainable lifestyle.

Hypothesis 2: Young people have more knowledge of sustainable investment and are also those who invest more sustainably.

In Chapter 1, some research analysed that millennials are closest to the problem of climate change, so they implement a more sustainable lifestyle and invest most in sustainable investments.

From my analysis, the age groups 18-24 and 25-34 are the ones who have stated more that they have chosen sustainable investments.

As for knowledge in the field, only in the age group 25-34, 7.1% said they have a very good knowledge of sustainable investments. This is the only age group that has claimed to have very good knowledge.

Most respondents claim to have average knowledge. However, 43.8% of young people in the 18-24 age group state they have a good knowledge and 50% in the 45-54 age group.

***Hypothesis 3:** Lack of knowledge and information about sustainable investments makes them seem much risky than conventional investments*

As age groups grew, so did misinformation about sustainable investment. 75.1% of respondents over 65 say they have never heard of them. This also results in an incorrect risk/return assessment. In fact, the same respondents, 75.1%, stated sustainable investments have a much higher risk than conventional ones. 56.3% say the return is much lower.

This trend decreases in the lower age groups, especially the 18-24 and 25-34, who believe they have an average/good knowledge of sustainable investments and, in fact, claim that the risk/return is the same.

CONCLUSION

This thesis aims to analyse the behaviour of consumers and investors from a sustainable point of view.

Before entering the topic of sustainable consumption and finance, an introduction was given to sustainable finance. It has been shown that, despite the fact that it started talking about sustainable finance in the early 1970, it still needs to be fully known among investors. To describe sustainable finance, it was necessary to introduce the meaning of ESG and explain the Sustainable and Responsible Investing process.

Subsequently, Europe-wide regulations governing sustainable finance were analysed. It has been noted that a taxonomy is necessary to avoid fraud or problems such as greenwashing. Greenwashing is one of the most widespread problems to date; for this reason, ESMA, in recent months, has approved a guideline on the terminology of sustainable funds to prevent the spread of fake information.

After describing the phenomenon of greenwashing, I moved on to the definition of sustainable consumption. Here, analysing the existing literature on the subject, it was noted that people are very close to the phenomenon of sustainability. However, this has yet to be seen from the point of view of sustainable finance.

After the questionnaires were administered, a series of statistics were compiled, which examined the sample of responses, considering age, gender, and propensity to sustainable investment.

The results are in line with the literature so far. As previously stated, Gutsche & Zwergel (2019) concluded that a percentage of prospective investors claim that they do not (yet) invest sustainably due to a lack of supply from their present financial service provider and a perception that they are not adequately knowledgeable about the topic.

In my research, this has been seen in the more mature age groups, while in the younger age groups, there has been a greater propensity for sustainable investment followed by a greater knowledge of the subject.

Considering the knowledge, I wanted to test the risk/return ratio by comparing conventional and sustainable investments. Even in this case, the most mature age groups consider sustainable investments very risky but with a very low return. This response also aligns with the evidence found when interviewees were asked how much they knew about sustainable finance. From age 45 onwards, a high percentage of respondents said they had never heard of it.

It has been noted that consumers prefer a sustainable lifestyle, for example, by buying second-hand clothes or trying to have sustainable daily habits rather than investing sustainably.

This distortion of sustainable investment is mainly due to the need for more knowledge about sustainable investment. As sustainable investment tools continue to grow, the best solution is to increase the information they provide, especially to older age groups.

Appendix I

Sustainable consumption and sustainable investment

Welcome to this questionnaire! My name is Laura Saccon, and I am a student of the Master's Degree in Economics and Finance at Ca' Foscari University of Venice.

Your participation in this questionnaire will serve to collect data on sustainability and sustainable finance, topics that I discuss in my thesis.

The information collected will be managed in a completely anonymous way. It will not be possible in any way to trace your identity.

The information will be used for the sole purpose of didactic research for the writing of a thesis.

Please select your age

- 18-24
 - 25-34
 - 35-44
 - 45-54
 - 55-64
 - Over 65
-

Please select your gender

- Male
 - Female
 - Non-binary
 - I prefer not to answer
-

Do you have kids?

Yes

No

What is the highest level of education you have achieved?

Primary or secondary school diploma

High school diploma

Bachelor's degree

Master's degree

What are your sources of income?

Family support

Full-time job

Part-time job

Seasonal job

Paid internship

University scholarship

Other

If you have selected "other", please indicate your other sources of income.

How important is the issue of climate change to you personally?

- Not at all important
 - I do not mind
 - Somewhat important
 - Extremely important
-

Here are a number of personality traits that may or may not apply to you. Please select a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

- 1 = Disagree strongly
- 2 = Disagree moderately
- 3 = Disagree a little
- 4 = Neither agree nor disagree
- 5 = Agree a little
- 6 = Agree moderately
- 7 = Agree strongly

	1	2	3	4	5	6	7
Extraverted, enthusiastic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical, quarrelsome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dependable, self-disciplined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anxious, easily upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Open to new experiences, complex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reserved, quiet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sympathetic, warm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disorganized, careless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calm, emotionally stable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conventional, uncreative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When you think of the word "risk," what other term comes to mind?

- Loss
 - Uncertainty
 - Opportunity
 - Exhilaration
-

Imagine that you have received 1,000 euros as a gift. Now you have to decide between:

- A secure profit of 500 euros
 - A 50% chance to earn €1,000 and a 50% chance to earn nothing
-

Imagine that you have received 4,000 euros as a gift. Now you have to decide between:

- A sure loss of 1,000 euros
 - A 50% chance of losing 2,000 euros and a 50% chance of not losing anything
-

Imagine participating in a television show. The presenter offers you a series of proposals. Which one do you choose?

- Win 1,000 euros in cash
 - Have a 50% chance to win 5,000 euros
 - Have a 25% chance to win 10,000 euros
 - Have a 5% chance to win 100,000 euros
-

Imagine that you have won a lottery prize and have to decide how to cash it. Assuming that purchasing power remains constant over the next ten years, you would prefer:

- Cash the prize of 10,000 euros immediately
 - Cash 90 euros per month for 10 years
-

Suppose you can choose between a conventional fund A and a sustainable fund B.

Both investment funds have the same value in the risk/return category as indicated in the document summarising the main information.

The conventional portfolio A's expected annual net returns are listed below. Please specify the minimum expected net yearly return that would allow you to invest in the sustainable portfolio B in each of these situations.

Scenario 1: Fund A has an expected annual net return of 2.5%. In order for me to invest in Fund B, its return should be __%

Please indicate your answer below with a numerical value (Use a comma “,” for any decimals.)

Scenario 2: Fund A has an expected annual net return of 10%. In order for me to invest in Fund B, its return should be __%

Please indicate your answer below with a numerical value (Use a comma “,” for any decimals.)

Suppose you can choose between a conventional product A and a sustainable product B. Both products have the same characteristics.

Indicate how much you are willing to pay for sustainable product B by knowing the price of product A.

Scenario 1: The price of a black cotton t-shirt not produced by a sustainable supply chain is €5 (product A). How much are you willing to pay for a black organic cotton t-shirt from a sustainably certified supply chain? (Product B)

Please indicate your answer below with a numerical value (Use a comma “,” for any decimals.)

Scenario 2: The Price of a 50% wool sweater is €50 (product A). How much are you willing to pay for a 100% wool sweater from a certified sustainable supply chain? (Product B)

Please indicate your answer below with a numerical value (Use a comma “,” for any decimals.)

Scenario 3: The price of an eco-leather bag is €150 (product A). How much are you willing to pay for an eco-leather bag from a certified sustainable supply chain? (Product B)

Please indicate your answer below with a numerical value (Use a comma “,” for any decimals.)

How do you expect the average return on sustainable investment to be compared to conventional investment?

- Much lower
 - Somewhat lower
 - The same
 - A little higher
 - Much higher
 - I don't know
-

How do you assess the average risk of sustainable investments compared to conventional investments?

- Much lower
 - Somewhat lower
 - The same
 - A little higher
 - Much higher
 - I don't know
-

What does it mean for you to be a sustainable consumer?

	Not at all	Probably not	Maybe	Probably yes	Absolutely yes
Buy environmentally friendly products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Focus on quality versus quantity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduce the use of plastic as much as possible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not buy disposable products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduce your own consumption needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you agree with the concept of sustainable consumption? Which of the following statements best describes your commitment to sustainable consumption?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree or disagree	Somewhat agree	Agree	Strongly agree
When I buy a product I think about the social and labor rights of the people who produce it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to buy food packaged in recyclable containers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I buy I choose biodegradable/natural packaging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I shop I use the bags I carry from home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to buy a piece of sustainable clothing that costs more than one unsustainable (style, comfort and quality are the same)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that buying clothing made from recycled materials compromises its quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I bring home-made food to my workplace	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Select from the following list the sustainable products you own

- Reusable water bottle
 - Reusable Tote Bags for Shopping
 - Shampoo/Solid conditioner
 - Natural soap bars
 - LED light bulbs
 - Straws in steel or glass
 - Bamboo toothbrush
 - Recycled toilet paper
 - Pitcher to filter the water
 - None of the above
-

When buying a product, how important are the following features:

	Not at all	Little	Moderately	Much	Very much
Price	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Country of origin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social responsibility of producers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impact of production on the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recyclable packaging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What is the percentage of your eco-friendly purchases in the following areas?

	Less than 10%	Between 10% and 20%	Between 20% and 40%	Between 40% and 50%	Between 50% and 70%	Over 70%
Clothing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cosmetic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal hygiene	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grocery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electrical and electronic equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Furniture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Household cleaning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Have you ever invested money?

Yes

No

If so, have you ever chosen sustainable investments?

Yes

No

How do you assess your knowledge about sustainable investments?

- I have never heard of it
 - Very low
 - Low
 - On average
 - Good
 - Very good
-

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