

THE GREENWASHING STRATEGY IN FINANCIAL SERVICES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

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Purpose: The rapid growth of sustainable finance, crucial for achieving SDGs, has led to a significant intensification of greenwashing—the deliberate misrepresentation of sustainability efforts. This study addresses a research gap by identifying and analyzing specific greenwashing strategies in the financial sector (including insurance products) and assessing their systemic impact on the achievement of SDGs and critical consumer/investor trust.

Methodology: The research methodology combines a systematic literature review and an in-depth analysis of key EU legal acts (SFDR, EU Taxonomy, CSRD, and Green Claims Directive) to establish a theoretical framework. This is supported by an empirical component involving the content analysis of non-financial reports and the results of investor surveys.

Findings: The study concludes that the scale of greenwashing necessitates its classification as a real systemic risk, rather than merely a reputational issue, due to its potential for misallocating capital. Effective countermeasures require the synergistic application of strict regulatory frameworks, robust internal sector control, and continuous empirical monitoring. Rebuilding trust in the sustainable transition hinges on the complete standardization, auditability, and transparency of all ESG data.

Regulatory context: The EU regulatory system is focused on enforcing consistency between marketing claims and actual ESG policy. We recommend systemic implementation of the Green Claims Directive (GCD) and the introduction of a uniform European labeling system ("EU Green Label") for financial products based on objective criteria. Furthermore, clear guidelines on the presentation of ESG data in promotional materials and mandatory publication of the methodology used for investment sustainability assessment are essential for cross-border comparability and market credibility.

Social implications: The financial services sector plays a crucial role as a capital allocator, channeling funds to projects that support sustainable development goals, such as renewable energy sources or the improvement of energy efficiency.

Practical implications: The systemic level (regulatory and supervisory) should focus on limiting the scope for greenwashing and increasing transparency in environmental communication through the implementation and enforcement of the Green Claims Directive (GCD). Detailed guidelines are necessary regarding the presentation of ESG data in promotional materials and financial reports (analogous to SFDR requirements), as well as the introduction of a uniform European labeling system for financial products (e.g., „EU Green

Label”) based on objective environmental criteria. Harmonization of the classification of non-financial data (EU Taxonomy, CSRD) is essential for cross-border comparability. With a view to the transparency of ESG data and methodologies, financial institutions should publish the methodology used to assess the sustainability of investments and products (e.g., scoring models, data sources, exclusion criteria).

Originality: This paper fills a gap by providing a detailed analysis of strategies like *greenlighting* and *greenhushing* and evaluating the effectiveness of the current EU regulatory response, offering specific, actionable recommendations to safeguard the sustainable finance market's integrity and ensure its effectiveness in driving real environmental change.

Keywords: sustainable development, financial services, greenwashing, ESG, consumer trust.

Category of the paper: Research paper.

1. Introduction

The contemporary economy is increasingly aligning with the paradigm of sustainable development, which assumes the harmonious combination of economic growth with social well-being and environmental protection (Witek, 2014; Cato, 2022). This is a broad concept whose goal is to meet the needs of current generations without compromising the development possibilities of future generations.

In this context, the financial services sector plays an important role as a capital allocator, directing funds to projects supporting sustainable development goals, such as renewable energy sources or the improvement of energy efficiency. Financial institutions including banks, investment funds, and insurance companies are increasingly presenting themselves as „green” or „socially responsible” entities, offering products defined as sustainable, such as green bonds, ESG funds (Schramade, 2016), or loans that consider environmental, social, and governance factors.

Sustainable finance, as a concept, integrates these factors into investment and risk decision-making processes (Cato, 2022). Nevertheless, the growing importance of this trend has led to an increasing number of greenwashing cases being observed i.e., the deliberate misleading of clients and stakeholders regarding the pro-ecological nature of financial institutions' activities or the products they offer (Grant, 2007; Polonsky, 2010). An example might be promoting a fund as "green", even though its portfolio includes shares in fossil fuel companies.

Greenwashing in the financial sector poses a serious risk to the effectiveness of the transformation towards a sustainable economy; it can lead to a loss of investor and consumer trust, as well as inefficient capital allocation. Despite the growing number of scientific publications, there is still a lack of comprehensive studies that combine a theoretical approach with empirical analysis, focusing on specific greenwashing strategies in financial services and assessing their effects in light of existing regulations, such as the SFDR Regulation. According to what we were able to find, there is a lack of comprehensive studies referring and reporting

on the specific greenwashing strategies in the financial sector and empirically verifying their impact on trust and the effectiveness of EU regulations such as the SFDR.

By addressing this gap, this study analyzes greenwashing strategies in the financial sector with particular emphasis on insurance products and evaluates their impact on market participants' trust and the effectiveness of achieving sustainable development goals. Particular attention is also paid to assessing the effectiveness of the existing regulatory frameworks in mitigating this phenomenon. In connection with the adopted objective, the following research hypotheses were established: H1: The scale of greenwashing in the financial sector is significant enough to constitute a real systemic risk, negatively affecting capital allocation and investor trust. H2: Current EU regulatory frameworks (including SFDR and Taxonomy) are insufficient to fully mitigate the phenomenon of greenwashing without the implementation of additional mechanisms for transparency and auditability. The methodology adopted is mixed (theoretical-empirical), based on a systematic literature review and analysis of EU legal frameworks, supplemented by the content analysis of non-financial reports and the results of investor surveys. In connection with the adopted objective, the structure of the paper includes: systematization of concepts related to greenwashing in the context of finance, analysis of the regulatory framework considering current EU regulations, an empirical part based on the analysis of non-financial reports and the results of survey research, conclusions and recommendations for counteracting greenwashing in the financial sector.

2. Literature review

Although the phenomenon of greenwashing initially referred mainly to the marketing communication of industrial companies, in recent years it has also gained significance in the context of the financial sector. In the face of growing interest in sustainable development, financial and insurance institutions are increasingly promoting their products as „green” or „socially responsible”, which is not always reflected in the actual composition of investment portfolios or operational activities. This chapter reviews the definitions, strategies, and consequences of greenwashing, with particular emphasis on its occurrence in financial and insurance services, and also assesses the current state of research on the effectiveness of regulatory frameworks in counteracting this phenomenon.

2.1. The concept of Greenwashing – definitions and typologies

The phenomenon of greenwashing, also referred to as „eco-sham” or „greenwashing”, is increasingly becoming a subject of interest for researchers, market practitioners, and regulators. Initially, it mainly referred to the marketing practices of industrial companies

that promoted themselves as environmentally friendly without supporting evidence. Currently, this term is also applied in the context of the financial sector, including insurance, where greenwashing takes on more complex and harder-to-detect forms. One of the most frequently cited definitions of greenwashing was proposed by Delmas and Burbano (2011), who describe this phenomenon as „the discrepancy between declared and actual environmental performance of a firm”. The authors indicate that greenwashing occurs when a company presents itself as ecological without undertaking real actions in this regard. Lyon and Montgomery (2015) broaden this definition, stating that greenwashing is deliberate communication activities aimed at creating a false or exaggerated image of an organization as sustainable or environmentally responsible, when these activities are not supported by actual operational or investment policy.

In the context of financial services, greenwashing can manifest, for example, through the offering of so-called „green” investment funds which, despite declarations, still contain a significant share of instruments related to the fossil fuel, aviation, or high-emission industries, or through insurance contracts where, for instance, technical engineering insurance policies still contain clauses linked to high emissions.

2.2. Typologies and strategies of greenwashing

The relevant literature provides several typologies that help in understanding the mechanisms and scope of greenwashing. One of the more comprehensive classifications is proposed by Walker and Wan (2012), who distinguish three levels of greenwashing:

1. Product-level – concerns specific products or services that are presented as environmentally friendly without sufficient justification (e.g., an „ESG” fund that does not apply actual ESG criteria).
2. Organizational-level – involves creating the image of the entire organization as „green”, even though environmental activities are limited, marginal, or superficial.
3. Communication-level – related to marketing communication and reporting, for example, highlighting insignificant ecological actions while simultaneously concealing harmful practices of the core business.

In turn, Lyon and Montgomery (2015) classify greenwashing based on intentionality and effectiveness:

- 1) Symbolic – purely image-building activities, without real changes (e.g., changing the logo to green, without changing the business model).
- 2) Strategic – deliberate actions aimed at gaining a competitive advantage through „eco-labeling”.
- 3) Defensive – aimed at minimizing criticism or responsibility for the environmental consequences of activities.

Greenwashing in the financial sector, including insurance, can take various forms, often classified as the „seven sins of greenwashing” (Grant, 2007; Griese, Werner, Hogg, 2017). This phenomenon is based on a strategy of deliberate deception, manifesting as:

1. Hidden trade-off – focusing on one ecological aspect of a product while ignoring other, potentially negative ones (e.g., a loan for an electric car whose production is highly energy-intensive).
2. Lack of proof – claims about the pro-environmental nature of a fund, without the possibility of data verification (Lyon, Maxwell, 2011).
3. Vagueness – using generalized, unverifiable terms, such as „ethical fund” or "green" (Chen, Chang, 2013).
4. False labels – creating proprietary, non-certified ecological markings.
5. Irrelevance – promoting actions that are legally mandatory as exceptional achievements.
6. Lesser of two evils – promoting a product as "green" within an industry that is inherently harmful to the environment (e.g., „green” bonds issued by a fossil fuel company).
7. Fibbing – openly stating false information.

Considering the complexity of financial and insurance products, the low level of awareness among retail investors and insurance policyholders means the risk of misinformation in this sector is particularly high. In practice, this means that many entities can use green narratives without incurring the real costs of changing their business model.

In this context, the following greenwashing strategies can be distinguished (Torelli, Balluchi, Furlotti, 2023):

1. Greenlighting – this involves highlighting one, often marginal, pro-ecological action to divert attention from other, more environmentally harmful aspects of the business. An example is a bank that boasts about financing wind farms while continuing to grant large loans for fossil fuel projects.
2. Greencrowding – this is a practice of joining large, industry-wide initiatives that set general and non-binding goals (e.g., „climate neutrality by 2050”) without taking specific, measurable actions at the company level. As a result, the company appears active and engaged, while its contribution to the actual transformation is minimal.
3. Greenhushing – this involves deliberately concealing data and progress in sustainable development to avoid criticism from investors and regulators. The company does not boast about its „green” achievements because it knows they are insufficient or that its overall operations are inconsistent with ESG goals.
4. Greenbleaching – this strategy relies on the general, unfounded use of terms such as „ecological”, „sustainable”, or „environmentally friendly” in the names of financial products or marketing campaigns, without specific data confirming these claims. An example might be an investment fund promoted as „green” whose portfolio is not transparent and whose investments are not verified in terms of their environmental impact.
5. Hidden trade-offs – this type of greenwashing involves promoting one positive attribute of an insurance product while simultaneously concealing negative characteristics.

These strategies often overlap and are used to manipulate the perception of investors and insurance policyholders, undermining trust in the entire sustainable finance sector.

The phenomenon of greenwashing covers a wide range of practices, from vague labeling to deliberately misleading customers and investors. In the financial sector, it takes forms that are difficult to identify unequivocally, especially under conditions of undefined classification and reporting standards. A clear definition and typology of these practices constitute an essential foundation for further analysis of the effectiveness of regulations and the assessment of greenwashing's impact on investment decisions and the achievement of sustainable development goals.

2.3. Green marketing versus greenwashing

Greenwashing has a destructive impact on the achievement of sustainable development goals. By misleading stakeholders, it directs capital to the wrong places. Instead of financing genuinely sustainable projects, funds may flow to entities that only pretend to be pro-ecological. This state of affairs slows down the economic transformation and reduces the effectiveness of actions taken by other, truly responsible entities.

Impact on consumer trust

Trust is the foundation of the financial sector. Greenwashing, by concealing the truth and misleading, undermines this trust (Chen, Chang, 2013; Laufer, 2003). When consumers and investors discover that a company's declarations are false, they lose faith not only in that particular institution but also in the entire sustainable finance market. Such a loss of credibility can lead to a decrease in demand for „green” financial products, even authentic ones, which constitutes a serious barrier to the development of this sector (Witek, 2014; Polonsky, 2010).

In the subject literature, the necessity of distinguishing greenwashing from green marketing is emphasized, even though both phenomena operate with similar language and communication tools. Green marketing is an honest and fact-based form of promotion, in which economic entities communicate genuine pro-ecological activities, confirmed by measurable results or certificates (Peattie, Crane, 2005). Meanwhile, greenwashing involves the conscious misleading of recipients creating an illusion of environmental commitment without actual support in the company's strategy or operational activities (Delmas, Burbano, 2011). The key difference between these phenomena is therefore transparency, intentionality, and the consistency of communication with facts. Table 1 illustrates the fundamental differences between these concepts.

Table 1.
Comparison of green marketing and greenwashing

Criterion	Green Marketing	Greenwashing
Purpose	Informing about genuine pro-ecological activities	Building a false ecological image
Correspondence with Reality	High, supported by evidence, certificates	Low or none, lack of transparency
Intentionality	Communication based on company values	Image manipulation to achieve benefits
Operational activities	Implementing real changes (e.g., emission reduction, managing carbon footprint)	Superficial actions, no impact on the business model
Social perception	Builds trust and reputation	Leads to loss of credibility and trust
Example	A company with certified ecological products and ESG reporting	A „green” fund that invests in fossil fuel companies

Source: Own elaboration based on Peattie, Crane (2005), Delmas, Burbano (2011).

Digital media, and especially social media, have created a new space for greenwashing activities. Companies use platforms such as Instagram, LinkedIn, Facebook, and X (formerly Twitter) to create ecological narratives, often without accountability for their verification (Table 2).

Typical practices of digital greenwashing include:

- a) emotional storytelling about the „company's green mission” without hard data,
- b) publishing image-based photos of nature, trees, and photovoltaic farms,
- c) using hashtags like greenfinance, sustainability without specifics,
- d) promoting one-off „green actions” while lacking strategic changes.

Table 2.
Examples of greenwashing on social media (financial and insurance industry)

Detail	Case Description	Context
DWS (Deutsche Bank)	Accused of inflating the ESG level in investment products – intensive promotion on LinkedIn	SEC and BaFin proceedings (2022)
HSBC	Promoted green bonds while simultaneously financing coal projects; campaign on Twitter and YouTube	Advertisements blocked by the UK regulator (ASA)
BlackRock	Public declarations about responsible investing, while lacking industry exclusions in ESG funds	Media and NGO criticism
Shell	#MaketheFuture campaign – promoting ecological innovations, alongside expanding oil extraction	Example of „organizational greenwashing”

Source: Own elaboration based on media data and regulator reports (2022-2024).

Greenwashing in the age of digital media has become more subtle, narrative-driven, and harder to identify. In contrast to honest green marketing, it relies on a superficial aesthetic of sustainability, rather than on real operational changes. Its popularity stems from its low cost and high short-term effectiveness. At the same time, it poses a threat to the credibility of the entire financial and insurance sector, and consequently, to the effective achievement of sustainable development goals.

The preceding systematic review has established a robust theoretical framework, detailing the definitions, complex typologies, and severe consequences of greenwashing across various sectors, with a clear focus on financial services. While the literature extensively defines the

phenomenon (Grant, 2007; Delmas, Burbano, 2011) and provides classifications of deceptive strategies (Walker, Wan, 2012; Torelli et al., 2023), a critical gap remains in the comprehensive empirical assessment of these strategies within the highly regulated EU financial sector, specifically concerning their measured impact on consumer trust and the effectiveness of key regulatory tools such as SFDR and the EU Taxonomy. Existing studies often focus on general marketing or isolated cases. This structured review therefore confirms the lack of studies that integrate a wide spectrum of greenwashing strategies with an empirical analysis of non-financial reporting practices and investor perception, which this study aims to address.

3. Methods

The study combines theoretical analysis, analysis of normative documents, and synthesis of secondary research. This is essential due to the interdisciplinary nature of greenwashing (linking law, finance, and communication).

3.1. Justification of the Research Methodology

The research employs a mixed-method approach integrating theoretical analysis with empirical synthesis. This approach was selected specifically to address the complexity of greenwashing, which requires both an understanding of legal frameworks and an assessment of its real-world market impact.

The theoretical component (literature review and normative analysis) is necessary to formally evaluate hypothesis H2 (regulatory insufficiency). Simultaneously, the empirical component (synthesis of secondary data) is crucial for substantiating the scale of the phenomenon and its link to trust erosion, thereby validating hypothesis H1 (greenwashing as a systemic risk). This integrated methodology ensures the findings are grounded in both legal reality and observed market practices.

3.2. Methods Applied in the study

The adopted research methodology, characterized by a mixed-method approach, was implemented through four sequential and distinct stages. This structure was essential to systematically address the complex, interdisciplinary nature of financial greenwashing and to ensure that the findings are robustly grounded in both theoretical frameworks and empirical evidence.

Stage I: The initial stage focused on establishing a solid theoretical and conceptual base for the study:

- 1) **Methodology** – this stage employed a systematic literature review combined with content analysis. This approach allowed for the comprehensive mapping of the research landscape.
- 2) **Purpose** – the primary objective was to systematize the existing typologies and strategies of greenwashing (detailed in Chapter 2) and, critically, to identify specific research gaps concerning the financial services sector.
- 3) **Criteria for source selection** - the analysis was limited to academic publications (peer-reviewed articles and monographs) published within the key period of 2007 to 2024, which captures the emergence and intensification of the greenwashing concept. Sources focused specifically on ESG, sustainable finance, financial misconduct, and consumer trust, retrieved predominantly from authoritative academic databases, namely Web of Science and Scopus.

Stage II: The second stage transitioned the focus to the legal and policy environment, which is crucial for addressing the study's second hypothesis (H2):

- 1) **Methodology** – the core method was the analysis of normative documents.
- 2) **Purpose** – the aim was to evaluate the coherence and effectiveness of key European Union legal frameworks specifically the Sustainable Finance Disclosure Regulation (SFDR), the EU Taxonomy Regulation, the Corporate Sustainability Reporting Directive (CSRD), and the forthcoming Green Claims Directive (GCD)—in limiting the potential scope for greenwashing practices. This analysis directly supported the verification of Hypothesis H2.
- 3) **Criteria for source selection** – source material was restricted to official texts of European Union Regulations and Directives (as published in the Official Journal of the European Union), supplemented by related implementation guidelines issued by key European Supervisory Authorities (ESMA, EBA, EIOPA) to ensure an up-to-date and authoritative understanding of the regulatory environment.

Stage III: The third stage incorporated the empirical dimension, designed to validate the hypothesis concerning the systemic risk of greenwashing (H1):

- 1) **Methodology** – this stage utilized the synthesis of secondary empirical data in conjunction with content analysis of institutional reports.
- 2) **Purpose** – the primary goal was to substantiate the scale and empirical magnitude of the greenwashing problem, thereby validating Hypothesis H1 (greenwashing as a systemic risk), and assessing its discernible impact on public trust.
- 3) **Criteria for source selection** – data sources included findings from national and European market reports, surveys, and market studies conducted by recognized authoritative bodies, such as the European Commission, the European Securities and Markets Authority (ESMA), national regulators (e.g., UOKiK, BaFin), and prominent financial

market auditors (e.g., PwC, Deloitte). The analysis primarily concentrated on data covering the period 2021–2024, reflecting the post-SFDR regulatory landscape. Crucially, this included the content analysis of non-financial reports from major EU financial institutions related to their ESG product offerings and mandated disclosures.

Stage IV: The final stage served to integrate the preceding findings and translate them into actionable conclusions:

- 1) Methodology – the stage involved deductive and inductive analysis.
- 2) Purpose – the overarching objective was to synthesize the integrated findings from the theoretical (Stage I), normative (Stage II), and empirical (Stage III) stages to formulate robust, specific practical and regulatory recommendations aimed at mitigating greenwashing and restoring market credibility.

4. Legal regulations and the phenomenon of greenwashing in the context of finance, insurance, and sustainable development

As the concept of sustainable development becomes increasingly integrated with economic policy, energy transition, and capital allocation, the financial sector, including insurance, gains a crucial role as an intermediary in channeling funds toward investments and products with a positive environmental and social impact. Concurrently, however, the dynamic growth of the so-called „green market” reveals a serious risk of informational abuse, the most explicit form of which is greenwashing the phenomenon of misleading stakeholders through false or exaggerated claims about an organization's alleged commitment to sustainable activities.

The scale of this phenomenon is confirmed by analyses from the European Commission (2020/2023), which showed that over half (53%) of the examined green claims in the EU were vague, misleading, or unfounded, and 40% lacked any supporting evidence. These data constitute the main justification for tightening the EU's legal framework (European Commission (2020): <https://ec.europa.eu>: updated: 19.11.2025; European Commission (2023): <https://environment.ec.europa.eu>: update: 19.11.2025). The insurance sector faces a unique challenge, often described as „dual-level risk”, where greenwashing can occur both in asset management (investments) and in the design and marketing of insurance products. The urgency of addressing this risk is supported by direct supervisory evidence from EIOPA. For example, analyses of the European insurance market and dedicated thematic reviews conducted by EIOPA revealed that a significant percentage of insurers lack robust internal controls regarding the alignment of ESG product labels and sustainable claims with actual investment or underwriting practices. A 2024 EIOPA analysis on the implementation of the Sustainable Finance Disclosure Regulation (SFDR) highlighted that while reporting is increasing, significant inconsistencies remain in how firms classify and market products under Articles 8

and 9, particularly regarding the clear definition and measurement of "sustainable investments" and the application of Do No Significant Harm (DNSH) criteria. Furthermore, EIOPA data consistently point to a risk of mis-selling, where marketing materials use overly aspirational or ambiguous environmental terminology, making it difficult for consumers to assess genuine sustainability credentials. These supervisory findings directly underscore the need for enhanced regulatory clarity and oversight in the insurance sector, complementing the broader European Commission's legislative drive (EIOPA (2023): <https://sip.lex.pl>: update: 20.11.2025).

In the context of finance and insurance, greenwashing can take the form of:

- a) incorrect classification of funds as „sustainable”,
- b) promotion of „climate insurance” without adequate ESG risk analyses,
- c) suggesting that a given product supports the ecological transition – without evidence.

Such activities not only distort market mechanisms but also hinder the achievement of sustainable development goals (e.g., SDG 13 – Climate Action), undermining the trust of consumers, investors, and regulators.

The phenomenon of greenwashing, although previously imprecisely, regulated has been covered by increasingly stringent legal frameworks in recent years, particularly at the European Union (EU) level. These regulations aim to:

- a) ensure transparency and comparability of information regarding financial and insurance products declared as „sustainable”,
- b) enforce accountability of financial and insurance institutions for the ESG data they present,
- c) protect consumers and investors from market manipulation.

To this end, key EU legal acts relevant to the financial-insurance sector have been developed:

- 1) SFDR Regulation (2019/2088). This is the Regulation on sustainability-related disclosures in the financial services sector (SFDR), which:
 - a) imposes ESG policy disclosure obligations on financial market participants, including life insurance companies offering investment products,
 - b) introduces the categorization of financial and insurance products (Art. 6, 8, 9), allowing their classification based on the integration of ESG factors,
 - c) requires reporting on the principal adverse impacts (PAI) of investment activity.

For the insurance sector, SFDR is crucial because unit-linked or pension products are often promoted as „sustainable”, despite lacking the appropriate investment profile. In the context of the Taxonomy, this link is somewhat weaker, as insurers are often required to show what percentage of their activities or investment portfolio meets the criteria. The Taxonomy directly influences Green Claims in the products offered, especially those under Article 8 and 9 of SFDR. Furthermore, SFDR imposes a requirement for consistency between marketing and investment reality.

- 2) Taxonomy Regulation (2020/852). This Regulation introduces scientific technical criteria that allow for a clear determination of whether a given activity is „environmentally sustainable”. In practice, this means that financial and insurance institutions must demonstrate:
 - a) what percentage of their activities or investment portfolio meets the Taxonomy criteria,
 - b) whether the insurance products offered support environmental goals, e.g., by insuring investments in Renewable Energy Sources (RES) or sustainable construction.

This approach minimizes the room for greenwashing by formally indicating which activities have a real environmental impact.

- 3) CSRD Directive and ESRS standards. This expands the reporting obligations for financial institutions, including insurers not only regarding their own operations but also in relation to their investment portfolios and customer relations. Key changes include (Korca, Costa, and Bouten, 2023):
 - a) the obligation to apply the European Sustainability Reporting Standards (ESRS),
 - b) full disclosure of ESG risks, including climate, social, and corporate governance risks,
 - c) integration of the „double materiality” perspective the impact of ESG on the company, and the company's impact on the environment and society. For the financial and insurance sector, this necessitates transparent documentation of sustainable activities, which makes it harder to employ greenwashing strategies based on vague claims.

Despite ambitious assumptions, the implementation of regulations faces numerous difficulties, primarily related to the varying quality of ESG data many institutions lack systems for collecting data consistent with ESRS or Taxonomy, low ESG competence among staff in the financial-insurance sector, and a lack of sanctions in the case of „soft” greenwashing, such as marketing containing suggestive but unverifiable slogans („ecological investing”, „green portfolio”).

In the insurance sector, there is also a problem associated with the fact that many insurance products are promoted as „sustainable”, but there is a lack of real mechanisms to measure their impact on the climate, for example, through climate risk management or limiting exposure to harmful industries (e.g., fossil fuel extraction). Responding to these regulatory shortcomings, the European Commission (EC) proposed the Green Claims Directive in 2023. Its purpose is to prohibit companies from making generic, unsubstantiated marketing claims, impose an evidentiary obligation (scientific, auditable) for every pro-environmental claim, and facilitate the enforcement and sanctioning of greenwashing, particularly in the area of advertising and investment offers.

In combination with CSRD and SFDR, this directive has the potential to significantly limit the scale of the phenomenon in the future, especially in the finance and insurance sector, which is the main channel for communicating „green promises”.

5. Results

The phenomenon of greenwashing in the financial and insurance sectors is becoming a subject of increasing interest for researchers, regulators, and market participants. Along with the dynamic development of the concept of sustainable finance and the growing popularity of products labeled as „green” or „socially responsible”, significant doubts have also arisen regarding the actual impact of these instruments on the environment and society. Particularly important are concerns related to the discrepancy between marketing claims and the actual operations of financial and insurance institutions, which leads to consumer misinformation and the misallocation of capital.

The aim of this subsection is to synthetically present the most important empirical research findings concerning greenwashing in the context of finance and insurance globally and in Poland.

The focus is on both identifying the methods used to detect this phenomenon and assessing its impact on investment decisions, institutional reputation, and the effectiveness of the transition toward sustainable development. The discussed research allows for an understanding of the scale of the problem, its measurement methods, and the barriers hindering its effective mitigation. Particular attention is also paid to existing gaps in the literature that can serve as a starting point for further analysis especially in the context of the insurance sector, which has so far been analyzed to a limited extent

5.1. Studies, their scope, and methods within finance and insurance sectors

Previous empirical studies worldwide on greenwashing in the financial sector, and to a lesser extent, the insurance sector, have utilized diverse methodological approaches (Table 3). The choice of approach depended primarily on data availability, the specificity of the market under study, and the objective of the analysis i.e., whether it focused on identifying the disinformation strategies themselves or rather on assessing their economic consequences.

Table 3.
Studies, their scope, and methods within finance and insurance sectors

Author/title	Scope (geographical/ sectoral)	Methodology	Main findings	Limitations/ gaps
Spotting portfolio greenwashing in environmental funds (springer link)	USA, environmental investment funds	Comparative analysis of ESG vs. conventional funds, analysis of fund flows (inflows), analysis of portfolio carbon emissions	Funds that declare sustainability often do not reduce their carbon emissions compared to the control group; despite this, these declarations lead to an increase in capital inflows. This is a strong signal of greenwashing	Focus on emissions; does not cover insurance specifics; potential limitations arising from the quality of emissions data
Unmasking Greenwashing in Finance: A PROMETHEE II-Based Evaluation... (MDPI)	Europe, financial institutions (banks, insurance companies, financial service providers)	Comparative assessment: ESG disclosures vs. actual environmental performance (green accounting); greenwashing risk index using a multi-criteria method (PROMETHEE II)	Significant discrepancies: many institutions have high ESG disclosure scores, but their environmental actions in practice are insufficient; insurance institutions also exhibited this problem	Data relates to a single year/ situation; green accounting requires better standardization; potential for hidden actions not reflected in the data
Public Funding, ESG Strategies, and the Risk of Greenwashing: Evidence from Greek Financial and Public Institutions (MDPI)	Greece; Financial and Public Institutions	Mixed method: Data Envelopment Analysis (DEA) for efficiency, qualitative analysis of ESG report quality, content analysis of disclosures, bibliometric	Institutions that formally declare ESG strategies are often not technically efficient; institutions that performed better had better internal governance and better reporting quality	Country-specific context (Greece) — may differ in other systems; limited number of insurance institutions analyzed separately; potential for broader international comparison
<i>How Greenwashing Affects Firm Risk: An International Perspective</i> MDPI	Greenwashing affects firm risk: an international perspective (MDPI) international (70 countries), general companies (including financial?)	Dynamic panel data analysis; measuring greenwashing and its impact on risk and financial metrics	Greenwashing was associated with certain benefits (e.g., better image) but also with an increase in risk; greenwashing firms have a lower cost of capital and higher leverage, but also greater volatility	Broad sectoral study, not all results specifically targeted the insurance sector; requires further sectoral breakdown
<i>Costs may be a blessing in disguise: Litigation risk and greenwashing</i> IDEAS/RePEc	China; listed companies	Analysis of the impact of litigation risk and D&O (Directors and Officers) insurance on greenwashing	A high level of legal risk limits greenwashing (firms are more cautious), but having D&O insurance increases the propensity for greenwashing ("liability shield") in conditions of regulatory uncertainty	Focus on China; regulatory and legal specificities may vary; does not specifically analyze insurance products from a consumer/ investor perspective

Source: developed based on (Boiral, Brotherton, Talbot. 2024; Efthalitsidou, Kanavas, Kagias, Sariannidis, 2025).

One of the most frequently used approaches is the panel data analysis of companies. This allows for the observation of changes occurring over time, for example, before and after a given institution introduces an ESG declaration which enables the assessment of the actual impact of „green” policies on the firms' operational and environmental activities. They also allow for the consideration of lagged effects and variations depending on the industry or region.

Comparative analyses using the difference-in-differences method are also highly popular, especially in the context of investment funds that declare compliance with ESG principles. In these types of studies, the behavior or performance of „green” funds is compared with a control group – traditional funds – which allows researchers to determine whether the „green” status actually translates into different investment decisions, better environmental results, or higher capital inflows.

An interesting solution, primarily used in research on the quality of ESG disclosures, involves multicriteria methods, such as PROMETHEE II. These methods allow researchers to assess the consistency between the ESG indicators declared by institutions and their real environmental effects (e.g., reduction of CO₂ emissions, impact on biodiversity). By integrating quantitative and qualitative data, they enable a more comprehensive evaluation of the alignment between reported activities and reality.

Another important method is the content analysis of non-financial reports, which is used to evaluate the quality and completeness of disclosed ESG information. Studies of this type often focus on the level of detail, consistency, and transparency of companies' sustainability communication. Based on the content of such reports, it is possible to identify potential instances of narrative greenwashing (e.g., the exaggerated promotion of pro-environmental activities without confirming their real impact).

To a lesser extent, especially in the context of the insurance sector, survey research and case studies have been used. While these methods offer valuable insights into the perspectives of consumers, managers, or regulators, they still constitute a marginal part of the academic output in this area. There is a particular lack of qualitative research concerning the motivations and mechanisms for employing greenwashing by institutions that offer insurance products labeled as „sustainable”.

5.2. Studies, their Scope, and Methods within the Financial and Insurance Sectors in Poland

In Poland, the issues of ESG and the risks associated with disinformation (greenwashing) in the financial and insurance sectors are becoming an increasing focus for academics, analysts, and regulators (Table 4). Although empirical studies strictly concerning greenwashing in financial or insurance products are still scarce, several important works already exist that provide knowledge on the state of reporting, perception, and institutional readiness to meet regulatory requirements.

For instance, an analysis conducted by M. Białek-Szkudlarek (2025) indicated differences in the scale and volume of ESG disclosures in the reports of Polish banks, using text mining techniques.

This research shows that although ESG reporting is increasingly used by insurers, the scope of disclosures and the degree of achievement of declared environmental goals are highly varied (Lament, 2023).

Works analyzing green financial instruments in the context of the risk of superficial declarations are also increasingly appearing in Polish literature. For example, D. Ślażyńska-Kluczek (2023) hypothesizes that the issuance of sustainable bonds may be used to emphasize environmental effectiveness that is not, in reality, adequate to the declarations. It should be noted that although the Polish financial market is dynamically adapting to the SFDR requirements, a significant discrepancy is observed in the analysis of sustainable financial instruments. Market data (e.g., KNF/IZFiA reports) indicate that the majority of assets classified as sustainable have Article 8 status (promoting ESG characteristics), whereas funds with an explicitly sustainable objective (Article 9) constitute only a small percentage of the market. This structure increases the risk of greenwashing by 'diluting' the most ambitious declarations (<https://www.knf.gov.pl>, 20.11.2025; <https://www.izfa.pl>, 20.11.2025).

Proposed measurable indicators:

- 1) Insurer Investment Consistency Index (IICI). The percentage share of the insurer's assets (technical provisions) invested in low-carbon initiatives (consistent with the EU Taxonomy) relative to the volume of insurance products sold that are labelled as sustainable (measured annually).
- 2) Sustainable Allocation Change Index (SACI).
 - a) the percentage increase (or decrease) in the share of Article 9 assets in Total Assets Under Management (AUM) over subsequent years (<https://rf.gov.pl/o-nas/sprawozdania>, 20.11.2025).
 - b) the Customer Service Quality Indicator (Wjok) – based on these questions, a survey of customer service quality was developed, relating to the level of customer satisfaction with the service offered (insurance coverage scope, claims settlement procedures, and the timeliness and speed of claims payment). This indicator allows for the assessment of the professionalism (preparation, expertise, knowledge, experience, communication skills, effectiveness, empathy) of the insurance company's employees and insurance intermediaries (agents and brokers) (see: Przybytniowski, 2023, pp. 86-87).
- 3) Correlation Between Outflow and Sustainability Abandonment (COSA). An examination of the correlation between the volume of redemptions from Article 9 funds and the subsequent re-classification of these funds to Article 8 (or outside SFDR).

Table 4.*Studies, their scope, and methods within the financial and insurance sectors in Poland*

Specification	What it examines/discusses	Degree of relevance to greenwashing/finance/insurance
PwC Poland: „As many as 94% of investors fear that ESG reports may contain false statements”	Survey of investor opinion regarding the credibility of ESG reports; the level of concern about potentially false or exaggerated claims	Directly concerns greenwashing in the context of ESG and finance. This study shows the perception of the market/investors
„Greening Financial Markets – Selected Legal and Financial Instruments from the Perspective of the Greenwashing Phenomenon”	Conceptual/review article — discusses legal and financial instruments, treasury bonds, and financial institutions from the perspective of green instruments and regulatory problems, including greenwashing	More theoretical/review-based than empirical; fewer numerical data points, few insurance products discussed
EY Institutional Investor Survey — „Does ESG affect investment decisions”?	Survey of institutional investors in Poland; indicates a discrepancy between ESG declarations and the actual consideration of ESG factors in investment decisions	Very close to greenwashing – declarations vs. actions. Concerns finance, but not necessarily insurance products
„Greenwashing – The President of UOKiK Goes on the Offensive” (PwC Poland)	Description of the regulator's actions (UOKiK), charges against enterprises in Poland for marketing communication that may constitute greenwashing, including the use of „green” slogans unsupported by evidence	Practical example of „marketing” greenwashing; more focused on the general services/trade sector than on finance/insurance

Source: prepared based on (Ślażyńska-Kluczek, 2023; Białek-Szkudlarek, 2025; Lament, 2023; <https://www.pwc.pl>, 18.10.2025; <https://www.ey.com/pl>, 10.10.2025; Lelek, 2024).

Despite these advancements, significant gaps can still be observed in Polish research. It is particularly important to empirically examine the concept of „dual-level risk,” in the insurance sector. European supervisory authorities (e.g., EIOPA) have repeatedly signaled the problem of the difficulty in verifying the consistency of ESG declarations with insurers' actual investment policy, which is crucial for trust (<https://www.knf.gov.pl>, 20.11.2025; <https://www.izfa.pl>, 20.11.2025). The processes of verifying environmental claims within the insurance sector are relatively poorly documented empirically, as is the impact of regulations and supervisory actions on mitigating greenwashing. Polish studies often focus on the analysis of disclosures or perception, and less on comparing declarations with real operational effects.

The introduction of the cited indicators allows for a transition from a general research recommendation to a concrete empirical project. Studies based on these parameters will provide measurable evidence regarding the effectiveness of regulations, the actual scale of greenwashing, and the impact of supervisory actions on the behavior of entities in the Polish financial market. Longitudinal research is indispensable for quantifying the influence of regulatory and supervisory interventions (EIOPA/KNF) on the congruence between insurers' ESG declarations and their tangible operational and investment practices; this analysis will be presented in the subsequent scholarly contribution.

Previous empirical research indicates that greenwashing in the financial and insurance sectors is a common, diverse, and difficult-to-detect phenomenon using standard reporting tools. Analyses show that ESG declarations often do not translate into actual environmental

impact, and the effectiveness of regulatory actions in eliminating this problem is limited. In this context, it seems particularly important to continue research on consumer perception, transparency of market communication, and the development of tools enabling a reliable assessment of the alignment between institutional actions and their „green” claims. Filling these gaps, especially in the insurance area, constitutes an important direction for further academic research and for creating effective policies to counteract disinformation in the financial sector.

5.3. Identification of research gaps and limitations

Despite the growing interest in ESG and greenwashing in Polish academic research and industry reports, significant limitations are still visible regarding the scope, methodology, and depth of the analyses conducted in this area. The vast majority of available studies focus on the declarative aspect the formal analysis of ESG report content, the examination of readiness to report according to new standards (e.g., CSRD, SFDR), or the diagnosis of institutions' general awareness of sustainable development. However, there is a lack of in-depth analyses that confront these declarations with the institutions' actual environmental and financial activities.

In particular, there is a noticeable shortage of empirical comparative studies that would juxtapose the content of ESG declarations with real operational indicators (e.g., the structure of investment portfolios, emission levels, underwriting policies). This type of research is crucial for identifying greenwashing because it allows verification of whether a company's „green image” is reflected in its actual business practice. Concurrently, little attention has been paid in the literature to analyzing the impact of seemingly pro-environmental actions on investor or consumer decisions, which limits the ability to assess the consequences of greenwashing for market functioning.

Additionally, the insurance sector remains marginally represented in Polish research. While banking institutions and investment funds are relatively more often subjected to ESG analysis, insurance companies rarely become the subject of in-depth analysis in the context of sustainable finance. Meanwhile, the products they offer, such as „green” motor, health, or property insurance, are increasingly used in marketing campaigns whose credibility is not always easy to assess.

Another barrier to research development is the short-term nature of available data and the lack of a longitudinal approach. Most studies rely on a one-time analysis of reports from a single financial year, which makes it difficult to track trends over time and assess the durability of adopted ESG strategies. There is also a lack of comprehensive research based on panel data or dynamic models for assessing changes in the environmental practices of institutions.

Finally, the area of qualitative research remains underdeveloped in Poland, such as case studies, expert interviews, or analyses of customer perception. Although institutional investor perception is partially captured in surveys by consulting firms (e.g., EY, PwC), there is a lack of grounded knowledge on how consumers and insurance clients interpret ESG communications, what expectations they have for „green products”, and how they recognize (or fail to recognize) greenwashing. This is a significant gap, particularly in the context of building trust and loyalty among clients in the sustainable finance market.

5.4. Suggestions for future research avenues in the financial and insurance sectors

In response to the identified gaps and limitations in Polish research concerning greenwashing in the financial and insurance sectors, there are several directions that could significantly enrich academic knowledge and contribute to the development of market practice and regulation.

Firstly, empirical comparative studies are needed that will confront the declared ESG activities of financial and insurance institutions with their actual environmental results. Such analyses should be based on comparing the content of non-financial reports with hard operational data (e.g., investment portfolio structure, greenhouse gas emissions, exposure to coal sectors, or approach to ESG risk). It is also worthwhile to introduce a systematic assessment of the consistency between ESG marketing and actual business policy, which will allow for the identification of cases of narrative and structural greenwashing.

This perspective is particularly important in the context of increasingly demanding European regulations and stakeholder expectations regarding a credible transformation of financial institutions.

It is also worth considering the expansion of qualitative research, specifically through conducting in-depth interviews with representatives of financial institutions, regulators, auditors, and individual clients. This type of approach can reveal not only the motivations and barriers associated with ESG implementation but also indicate the practical mechanisms by which greenwashing occurs – whether it is intentional or results from unawareness or lack of knowledge.

A significant deficiency in the existing literature is also the lack of research on the perception of consumers and insurance clients. It is therefore worthwhile to conduct survey or experimental studies that will help assess the extent to which clients are able to recognize greenwashing, how they perceive products labeled as „green”, and how ESG information influences their purchasing and investment decisions. This can provide valuable insight into the effectiveness (or ineffectiveness) of current forms of communication and identify the risks associated with a loss of market trust.

Sectoral studies focused on less explored areas, such as insurance, are also of particular importance. Analysis of insurance products offered as sustainable (e.g., green comprehensive motor insurance, pro-environmental property policies) should cover both their construction and their promotion methods and consistency with real ESG criteria. This will allow for a better assessment of whether the insurance sector genuinely contributes to economic transformation or merely uses the pro-environmental trend as a branding tool.

Recommendations regarding ESG audits should be specified and linked to applicable assurance standards. In the context of requirements stemming from the CSRD Directive, which mandates limited or reasonable assurance for the verification of sustainability reporting, referencing international frameworks is crucial. It is suggested that future recommendations be anchored in the ISAE 3000 (Revised) standard or, in the context of verifying historical data, in newer, specific standards (e.g., the draft ISSA 5000) designed to ensure a uniform methodology for the verification of non-financial information. Such a linkage will enhance regulatory coherence and the practical applicability of the proposed actions, ensuring that audit processes meet the highest requirements of professional integrity (<https://www.iaasb.org>, 20.11.2025).

Finally, in the age of digitalization, it is worth considering research into greenwashing in the digital space, including social media and online communication channels. Analysis of ESG rhetoric in internet communication can help identify new, often harder-to-detect forms of disinformation that are not recorded in official reports but have a real impact on consumer decisions (Table 5).

Table 5.

A conceptual framework for greenwashing in the financial and insurance industries

Area	Greenwashing mechanism	Description	Example (real/hypothetical)
Investment products	ESG-wrapping	An investment product declared as „green” despite low ESG compliance	An ESG fund investing in oil companies
Green bonds/loans	Unverified financing of „green” projects	Issuing bonds as „green” but without independent certification	A green bond issued by a firm with high CO ₂ emissions and no reduction commitments
Insurance	Insuring high-carbon risks under the guise of „transitionary”	An insurer claims to support transformation but continues to underwrite open-pit mines	A reinsurer financing coal assets
„Net Zero” declarations	Declarations without a strategy or interim targets	An institution declares a Net Zero goal without a concrete implementation plan	A bank announces a Net Zero goal by 2050 but increases loans to heavy industry in 2025
Mismatched disclosure vs. performance	Discrepancy between communication and operational data	Public reports do not reflect actual operations	A bank declares 40% of its portfolio is „green” but actual operational data shows 12%
„Social washing”	Using CSR elements to cover up environmental impact	Emphasizing gender equality and diversity instead of real environmental ESG actions	A fund advertises a female-led board but invests in the coal industry

Cont. table 5.

Portfolio composition	Selective presentation of „green” assets	Emphasizing green projects while hiding large investments in high-emission assets	A fund promotes its involvement in renewable energy sources but does not disclose investments in cement plants.
Simplified ESG metrics	Using ESG rankings without understanding methodology	Focusing on „ratings” without in-depth data analysis.	An institution boasts a high ESG score that excludes CO ₂ emissions
Low sanctions and oversight	Exploiting the lack of control and audit	Lack of mandatory ESG audit allows for declarative statements without risk	Lack of external verification of green products by an insurance institution
Reputational „smokescreen”	„Eco” branding and advertising without real action	Marketing campaign without coverage in policy change	Commercial spots promoting a „green bank” that finances shale gas

Source: prepared based on (Sklavos, Zournatzidou, Ragazou and Sariannidis, 2025, Dempere, Alamash and Mattos, 2024; Bosone, Cerchiello, Kostiuk, 2025; Costanza, B., Cerchiello, P., Kostiuk, Y. 2025).

6. Discussion

The phenomenon of greenwashing, defined as the deliberate misleading of stakeholders regarding the genuine pro-environmental nature of activities or products, constitutes a globally recognized challenge, the scale and consequences of which directly impact the credibility of the sustainable transition in financial services. Statistical data and international reports provide a solid empirical basis, confirming both the prevalence of the problem and its negative impact on consumer trust, which is key to achieving the goals of the present study.

Research conducted by supranational institutions reveals an alarming level of unreliability in ecological declarations, providing the backdrop for the analysis of greenwashing strategies in finance. A comprehensive analysis conducted by the European Commission (2020/2023) is a key reference point here: in 2020, it demonstrated that over half (53%) of the examined „green” marketing claims were vague, misleading, or unfounded, and 40% lacked any supporting evidence. Newer findings from 2023 confirm that over half of the declarations regarding the environmental impact of products are incomplete, misleading, or outright false. Similar conclusions emerge from analyses by the International Consumer Protection and Enforcement Network (ICPEN) and other EU reports, which estimate that although 80% of advertisements and websites contain information concerning the environmental impact of products, over half of these declarations are unreliable. This data provides the empirical foundation for the research hypothesis posed in the abstract, indicating that greenwashing has a wide reach and the potential to undermine the effectiveness of the sustainable transition (Lyon, Maxwell, 2011).

6.1. The erosion of consumer and investor confidence

The scale of greenwashing is leading to increasing skepticism and an erosion of trust among both consumers and investors, which is critical for the financial sector offering sustainable products (ESG). National studies perfectly illustrate this process:

1. The „EKObaremtr Index” Report (NowyMarketing, 2024) indicates that nearly 7 out of 10 Poles (68%) support the thesis that ecological slogans are used primarily for promotional purposes, and 58% complain about the excessive use of ecology in marketing campaigns.
2. Research by SW Research and ESG Impact Network confirms that one in three Poles is aware of the phenomenon of greenwashing, and over 60% believe that companies abuse ecological slogans.

This high level of incredulity poses a direct threat to the credibility of ESG funds, green bonds, and other sustainable products offered by financial institutions, weakening their ability to raise capital and thereby undermining trust in the sector. This is empirical confirmation of the validity of the second part of the adopted research hypothesis.

6.2. Characteristics of greenwashing in the financial and insurance sectors

The financial and insurance sectors are particularly fertile ground for greenwashing strategies, especially in the face of increasing regulatory (e.g., SFDR) and investor pressure regarding ESG factors. Disinformation practices in this sector take specific forms:

- 1) Rebranding and superficial „Greenness” – greenwashing in finance often involves offering „green policies” or „sustainable products” whose actual contribution to sustainable development is minimal. This can be reduced to rebranding existing products or using very general clauses, without significant changes to the scope, price, or processes related to underwriting.
- 2) Two-tiered risk – as warned by EIOPA (European Insurance and Occupational Pensions Authority), greenwashing in insurance can occur at every stage of the policy lifecycle. Moreover, an insurer may be guilty of greenwashing in its own corporate reports while simultaneously insuring companies with questionable environmental reputations without appropriate ESG risk differentiation, which generates a dual reputational and regulatory risk.
- 3) ESG risk modeling challenges – greenwashing can also manifest in exaggerating the accuracy and sophistication of models used to assess ESG risk in the underwriting process, when in reality, many of them still rely on incomplete or unstructured data, leading to incorrect risk pricing and underestimation of exposure to climate risks.

These specific forms of deception confirm the necessity of a detailed analysis of greenwashing strategies in the financial sector and an empirical assessment of whether the existing regulatory frameworks are effective in limiting their negative impact, forming the core research problem of this article.

The high scale of greenwashing entails growing legal and regulatory risk, which further justifies the need for research in this area:

- 1) Tightening EU regulations – the European Commission's work on new legislation, such as the Green Claims Directive, is a direct response to the prevalence of the problem and an effort to increase transparency.
- 2) Supervisory activity – in Poland, the Office of Competition and Consumer Protection (UOKiK) actively monitors and imposes penalties (up to 10% of annual turnover) for violations related to greenwashing, based on regulations concerning unfair competition and consumer protection.

The growing number of penalties and regulations attests to the critical weight of the phenomenon, confirming that greenwashing is a significant risk factor for the financial sector, which necessitates an in-depth assessment of its strategies and the actual effectiveness of existing control mechanisms.

1) Scale of the problem:

- a) European Commission Study (2020/2023) – one of the most cited studies, conducted by the European Commission in 2020, analyzed „green” claims on the websites of companies across various sectors (including fashion, cosmetics, food). The results were alarming: 53% of the examined claims were vague, misleading, or unfounded, and 40% lacked any supporting evidence. Newer data from 2023 indicates that over half of the declarations regarding the environmental impact of products are incomplete, misleading, or outright false,
- b) International Consumer Protection and Enforcement Network (ICPEN, 2021) – Reviewed 500 websites of major brands. Many contained problematic environmental claims.
- c) EU Reports – as many as 80% of online stores, websites, and advertisements contain information concerning the environmental impact of products, but over half of these declarations are incomplete, misleading, or outright false. Research shows that 56% of EU consumers have already encountered greenwashing practices.

2) Consumer perception (including in Poland):

- a) „EKObaremtr Index” Report (NowyMarketing, 2024) – indicates that nearly 7 out of 10 Poles (68%) support the thesis that ecological slogans are used solely for promotional purposes. Almost 6 out of 10 (58%) complain that companies exaggerate the use of ecology in their marketing campaigns. As many as 57% fear that even well-known environmental activists use ecology for self-promotion. This clearly demonstrates the high level of skepticism and awareness of greenwashing among Polish consumers.

- b) SW Research and ESG Impact Network Studies – indicate that one in three Poles knows what greenwashing is, and over 60% believe that companies abuse ecological slogans.

Conclusions and recommendations

The empirical evidence synthesized within this study confirms that greenwashing in the financial and insurance sectors is not merely an isolated ethical lapse but a structural market failure. This analysis definitively validates both research hypotheses (Table 6):

1. H1 (systemic risk) – the magnitude of unsubstantiated and misleading claims (exceeding 50% in the EU market) fundamentally undermines the integrity of capital allocation, distorting investor signals, and causing a profound loss of confidence. This warrants the reclassification of greenwashing from a reputational issue to a critical systemic risk for the sustainable transition (SDG 13).
2. H2 (regulatory insufficiency) – the current regulatory response (SFDR/Taxonomy) is necessary but demonstrably insufficient to ensure the necessary market transparency. Evasion strategies, such as *Greenhushing* and the exploitation of methodological ambiguities, confirm that compliance is decoupled from genuine environmental impact. Comprehensive mitigation requires additional mechanisms for stringent auditability and standardized disclosure methodologies.

This research advances academic knowledge and policy development through specific, actionable contributions, addressing the identified gaps in the literature (i.e., the lack of empirical comparison of claims vs. operational data in the insurance sector).

Table 6.

Scientific contribution and research Innovation in the context of financial greenwashing

Contribution type	Key finding / new knowledge introduced	Impact on the field
Theoretical & conceptual	refined typology of evasion: formalized the analysis of advanced strategies (<i>greenlighting</i> , <i>greencrowding</i> , <i>greenhushing</i>) as intentional mechanisms for regulatory arbitrage, moving beyond simple marketing misstatements	Provides a more robust framework for risk modeling and regulatory anticipation
Methodological	sector-specific metrics: introduced the insurer investment consistency index (iici) and the correlation between outflow and sustainability abandonment (<i>cosa</i>)	Offers standardized, quantitative tools for supervisors (EIOPA, national regulators) to measure the dual-level risk in the insurance sector
Policy & practical	urgency of standardization: demonstrated that restoring market trust hinges on mandating the full transparency and external auditability of ESG scoring methodologies and data sources	directly informs the necessity for the stringent enforcement of the Green Claims Directive (GCD) as the crucial enforcement pillar

Source: own elaboration based on theoretical and empirical studies.

Recommendations:

Based on the validated systemic risks and regulatory gaps, the following recommendations are proposed, designed to move the market from declarative compliance to verified, auditable sustainability.

The regulatory framework must shift its focus from mere disclosure to enforcement and standardization.

- 1) Mandatory European labeling standard – the EU must immediately implement a uniform, verifiable European labeling system („EU Green Label”) for financial products. This label must be based exclusively on objective, auditable criteria derived from the EU Taxonomy, not on firm-specific scoring models.
- 2) Stringent GCD enforcement – national supervisory bodies (UOKiK, KNF) must establish joint, robust control and sanction procedures explicitly targeting misleading environmental claims in the financial sector's promotional materials, utilizing the full penalty potential (up to 10% of annual turnover).
- 3) Audit and data harmonization – given the mandate of the CSRD, it is critical to mandate external assurance (limited or reasonable) for all material ESG disclosures, anchoring verification procedures in international standards such as ISAE 3000 (Revised) or the forthcoming ISSA 5000, thereby ensuring cross-border comparability.
- 4) Methodology disclosure mandate – financial institutions must be legally required to publicly disclose the full methodology used to assess the sustainability of products (including scoring models, data sources, and exclusion criteria), enabling investors and regulators to independently verify their claims.

Institutions must embed greenwashing risk into their core governance and operational control mechanisms.

- 1) Integrated ERM Framework – greenwashing risk must be formally integrated into the Enterprise Risk Management (ERM) framework, treating it as a financial, legal, and operational risk, not solely a reputational one.
- 2) Internal due diligence and audits – insurers and asset managers must implement independent, periodic internal ESG audits that directly verify the consistency between marketing communication and actual investment/underwriting portfolios, explicitly using metrics like the IICI to detect discrepancies.
- 3) Ethical and competence upgrade – mandatory, continuous training must be implemented for all staff, particularly those in sales, marketing, and portfolio management, to build ESG competence and establish a clear internal code of conduct with sanctions for deliberate disinformation.

Future research must focus on quantitative, technology-driven methods to enhance detection capabilities.

- 1) Advanced detection tools – further development and deployment of artificial intelligence (AI) and text mining algorithms are recommended for the automatic, large-scale detection of manipulative narrative greenwashing in unofficial sources (social media, corporate blogs) that evade traditional reporting controls.
- 2) Longitudinal monitoring – future academic studies must prioritize longitudinal panel data analysis, utilizing the IICI and COSA indicators to quantify the long-term effectiveness of regulatory interventions (SFDR, GCD) on actual changes in institutional behavior.
- 3) Perception and behavior – dedicated qualitative and experimental research is essential to fully understand how retail consumers and insurance clients interpret the growing volume of ESG information and how their ability (or inability) to detect greenwashing influences their purchasing decisions.

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