

GREENWASHING AND THE CHALLENGE OF SUSTAINABLE DEVELOPMENT IN THE CONSTRUCTION INDUSTRY

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Abstract - Greenwashing, defined as the dissemination of inaccurate or misleading information regarding the environmental performance of products, services, or brands, has become increasingly prevalent in the construction industry. This study examines the extent and consequences of greenwashing in the sector, focusing on how exaggerated sustainability claims influence stakeholder trust and decision-making. Employing a mixed-methods approach - incorporating content analysis of corporate sustainability reports and surveys of industry experts - the research identifies common greenwashing strategies and evaluates their effects. Findings reveal that overstated environmental claims are pervasive, contributing to a significant decline in stakeholder trust. The discussion addresses the ethical implications of greenwashing, the challenges associated with its detection, and offers solutions to enhance transparency and accountability. This study advances the understanding of greenwashing within the construction industry and provides actionable recommendations to mitigate its negative impact on sustainability initiatives.

Key words - Greenwashing; Construction Industry; Sustainability; Stakeholder Trust; Environmental Responsibility

1. Introduction

As environmental concerns intensify and the global movement toward sustainability accelerates, businesses have increasingly sought to demonstrate their commitment to eco-friendly practices. However, not all claims of sustainability are authentic. Greenwashing, a term introduced by environmentalist Jay Westerveld in 1986, refers to the practice of deceiving consumers by exaggerating or misrepresenting a company's environmental actions or the ecological benefits of its products or services [1]. In 1986, Jay Westerveld coined the term "greenwashing" after observing misleading environmental claims during a stay at a hotel in the Republic of Fiji. The hotel encouraged guests to reuse towels "for the good of the planet", when in reality, the initiative was primarily aimed at reducing laundry costs. Since then, the practice of greenwashing has become increasingly widespread. In the 1980s, multinational energy corporation Chevron launched a high-profile campaign promoting wildlife conservation, all while continuing to contribute to oil spills and environmental degradation. Similarly, by the 2000s, British oil company BP popularized the concept of "carbon footprint", introducing a formula for individuals to calculate their carbon emissions. However, this was a strategic distraction from BP's significant contribution to global greenhouse gas emissions, positioning the company among the largest polluters worldwide.

Greenwashing is not confined to multinational corporations; local businesses have also been criticized for such practices. In Vietnam in 2019, the popular milk tea brand PL faced public backlash for its lack of transparency in environmental campaigns. While the store encouraged waste sorting with labeled bins, it was later revealed that all the waste was disposed of in a single plastic bag. The company further alienated customers by imposing additional charges for plastic cups, inadvertently increasing plastic waste. Similarly, the HL coffee chain launched a "green" program aimed at reducing plastic waste, yet continued to serve customers in plastic cups, even for in-store orders.

The real estate sector has also fallen prey to greenwashing. Developers frequently market projects using terms such as "green", "nature", and "ecological", featuring lush imagery of green spaces and environmentally friendly designs. However, the reality of these developments often falls short of their advertising promises, highlighting a significant gap between marketing rhetoric and actual environmental impact. As consumer awareness of environmental issues continues to rise, so too has the sophistication of greenwashing tactics, making it an increasingly pervasive problem across industries [2].

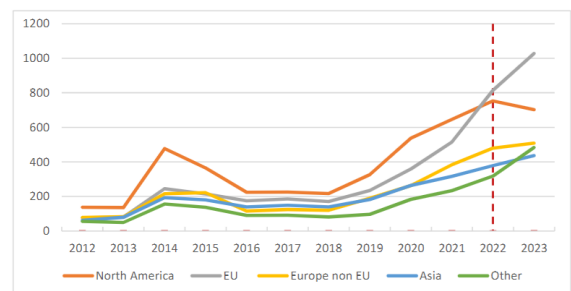


Figure 1. Total number of alleged cases of deceptive media [3]

2. Data and Research Methodology

Data collection for this study focused on academic journals, industry reports, and legal documents related to greenwashing and corporate sustainability practices. Databases such as ScienceDirect, JSTOR, and Google Scholar were utilized with search terms including "greenwashing", "corporate social responsibility", "sustainability marketing", and "environmental deception". Corporate communications, such as annual reports, marketing materials, and sustainability reports from 20 major companies, were analyzed to identify patterns and indicators of greenwashing [8].

Additionally, the study incorporates data from a survey of 500 consumers, designed to assess their perceptions of corporate sustainability claims and their level of skepticism toward green marketing strategies [9]. The survey addressed topics including general awareness, trust, purchasing behavior, and the ability to recognize greenwashing tactics. Corporate documents and reports were systematically coded and categorized to identify greenwashing-related themes, such as the use of ambiguous sustainability terminology, lack of transparency, and questionable certifications. This analysis revealed specific tactics employed by companies to present a misleading image of environmental responsibility. The survey results from both consumers and experts were analyzed to evaluate the prevalence of greenwashing in sustainability claims and to explore the relationship between greenwashing and consumer skepticism.

3. Research results

3.1. Prevalence of Greenwashing

The analysis revealed that greenwashing is widespread across various industries, with notable examples in the automotive, food and beverage, energy, and fashion sectors. In the automotive industry, many companies have promoted “green electric vehicles” to attract environmentally conscious consumers while continuing to invest significantly in fossil fuel technologies. Several major automakers have announced plans to expand electric vehicle production, yet simultaneously maintain or increase their production of gasoline and diesel vehicles. This creates a stark contradiction between their green marketing and their actual business practices [10].

Similarly, in the fashion industry, numerous brands emphasize their use of environmentally friendly materials to cultivate a sustainable image. However, many fail to provide transparency regarding their supply chains, making it difficult for consumers to verify these sustainability claims [11]. This disconnect between marketing messages and actual manufacturing practices contributes to the increasing prevalence of greenwashing within the industry.

The technology industry is not exempt from greenwashing, as many companies promote their products as energy-efficient while neglecting end-of-life recycling. Several major electronics manufacturers claim to be committed to reducing the energy consumption of their devices, yet fail to establish effective take-back and recycling programs for used products, thereby undermining the credibility of their sustainability claims [12].

In the food and beverage industry, numerous companies label their products as “organic” or “natural” to appeal to health-conscious and environmentally aware consumers. However, many of these products fail to meet strict organic standards, leading to consumer confusion and potentially misleading perceptions about the true sustainability of the products [13].

The energy sector has also experienced widespread greenwashing, with companies promoting a partial shift to renewable energy while continuing to operate

extensive fossil fuel activities. Major oil and gas companies, such as ExxonMobil and Shell, frequently publicize renewable energy initiatives and carbon reduction commitments to bolster their environmentally friendly image. However, reports suggest that these companies continue to invest heavily in oil and natural gas exploration, undermining the credibility and effectiveness of their sustainability pledges [14].

Table 1. Some legal actions

No	Industry	Violate	Legal action
1	Car	Misleading advertising about electric vehicle benefits	Fines for misleading statements [15]
2	Fashion	Using the “sustainable” label without supply chain transparency	Warning to consumers [16]
3	Technology	Overhyped about energy saving	No action yet
4	Food and Beverage	Non-compliance with organic certification standards	Product recall [17]
5	Energy	Partial transition to renewable energy but maintaining fossil fuel investment	Conduct investigation [18]

Greenwashing has become a growing concern in the global construction industry, with multiple studies highlighting a substantial rise in false or misleading sustainability claims. According to the Global Resilience Initiative (GRI) 2022 report, approximately 70% of the world’s leading construction companies used vague terms such as “eco-friendly”, “green”, or “sustainable” in their reports, often without offering detailed information or supporting data.

Greenwashing is a global issue, but its prevalence varies significantly across regions. According to a 2021 report by the United Nations Environment Programme (UNEP), the European region exhibited the highest rate of greenwashing, with approximately 75% of major construction companies making questionable sustainability claims. In comparison, Asia and North America reported lower, yet still substantial, rates of 65% and 60%, respectively.

Greenwashing is widespread not only among general construction companies but has also permeated specific sub-sectors such as building materials manufacturing, waste management, and architectural design. A 2023 report by the Construction Industry Institute (CII) revealed that 80% of companies in the building materials manufacturing sector utilized unverified or exaggerated environmental certifications related to recycling and carbon reduction (CII, 2023).

Compared to other industries, such as energy or manufacturing, the construction sector exhibits a higher rate of greenwashing, largely due to the significant role and complexity of environmental factors in the construction process. Lyon and Montgomery noted that while the energy industry reported approximately 50% of greenwashing cases, the construction industry reached

70%, highlighting the challenges of implementing comprehensive sustainable practices in large and complex projects [20].

3.2. Greenwashing tactics

Research has identified several common tactics employed by businesses to greenwash their practices. These include using vague or misleading terms such as “eco-friendly”, “green”, or “natural” without providing clear definitions or supporting evidence [19]; engaging in selective disclosure by emphasizing minor sustainability efforts while concealing significant environmental impacts [20]; leveraging third-party certification through unverified certifications or approvals to enhance the credibility of their claims [21]; and utilizing green branding and imagery by incorporating nature-related visuals and green color schemes in marketing materials to project an environmentally conscious image [22]. These tactics not only undermine the legitimacy of sustainability claims but also mislead consumers about the true scope of a company’s environmental initiatives.

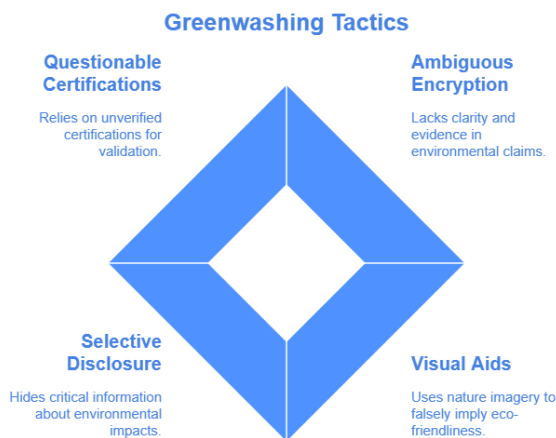


Figure 2. Common Greenwashing tactics

3.3. Impact on consumer behavior

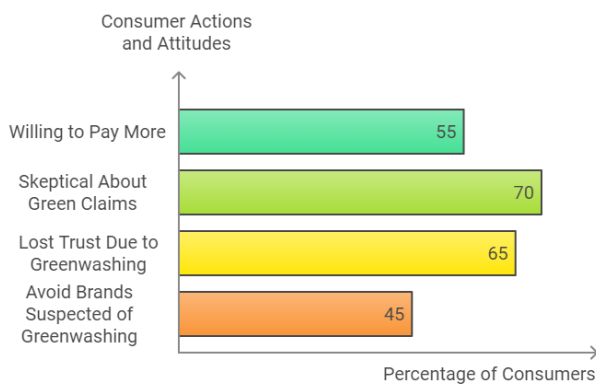


Figure 3. Consumer perceptions of greenwashing

Survey results indicate that greenwashing has a significant impact on consumer trust and purchasing decisions. Specifically, 65% of respondents reported losing trust in companies after discovering instances of greenwashing [23]. Additionally, 45% of consumers admitted to actively avoiding brands suspected of engaging

in greenwashing [24]. Skepticism toward sustainability claims has also risen, with 70% of consumers expressing uncertainty about the accuracy of such claims [25]. These findings suggest a growing consumer awareness and vigilance against deceptive marketing practices, which directly influence purchasing behavior and brand loyalty.

3.4. Legal response

Research indicates that regulatory responses to greenwashing vary significantly across regions and industries. For instance, the European Union has implemented strict regulations aimed at curbing misleading environmental claims [26]. In contrast, in regions with less stringent regulations, companies often rely on voluntary initiatives and self-regulatory certifications [27]. Additionally, the growing influence of advocacy groups and consumer pressure has driven some organizations to adopt more transparent sustainability reporting practices [28]. These differences highlight the diverse ways in which companies manage and respond to environmental issues, which, in turn, impact their business strategies and reputations across various markets

4. Discussion

4.1. Ethical issues of greenwashing

Greenwashing raises significant ethical concerns, primarily revolving around deception and manipulation. Companies that engage in greenwashing prioritize profit over genuine environmental responsibility, misleading stakeholders about their true sustainability performance. This practice not only harms consumers but also undermines legitimate sustainability efforts, eroding public confidence in environmental initiatives.

4.2. Challenges in detecting greenwashing

Detecting greenwashing in the construction industry presents several challenges. First, the ambiguity in terminology is a major obstacle, as words like “green building”, “energy efficiency”, and “sustainability” are often used without standardized definitions, making it difficult to assess the accuracy of environmental claims. Second, the construction sector’s complex supply chain, involving multiple contractors and suppliers, complicates efforts to track processes and assess environmental impacts, facilitating greenwashing. Lastly, the absence of coordinated sustainability standards leads to inconsistent and unverifiable claims about sustainability performance, further hindering the detection of greenwashing. Overcoming these challenges requires collaborative efforts from organizations, regulators, and researchers to develop clear standards and effective tools for assessing greenwashing.

4.3. Strategies to combat greenwashing

A multifaceted approach is essential to combat greenwashing. First, legal enforcement must be strengthened to ensure strict compliance and prevent deceptive environmental practices. Second, certifications from independent organizations like LEED (Leadership in Energy and Environmental Design) and regular audits can enhance transparency and the credibility of sustainability

claims. Third, providing stakeholders with accurate information on how to identify greenwashing enables informed decision-making and places pressure on companies to honor their sustainability commitments. Corporate transparency is also crucial, encouraging businesses to report their sustainability efforts in detail and honestly, thereby promoting social responsibility and building consumer trust. By sharing accurate and comprehensive information, companies not only enhance their reputations but also help consumers make responsible choices. These strategies must be implemented in close coordination among regulatory bodies, certification organizations, businesses, and consumers to achieve maximum effectiveness in curbing greenwashing.

4.4. Consequences for business practice

Businesses must recognize the long-term benefits of genuine sustainability commitments compared to the short-term gains of deceptive practices. Authentic corporate social responsibility (CSR) initiatives enhance brand reputation, strengthen customer loyalty, and promote sustainable development. Investing in sustainable activities benefits both the environment and the community, while also creating long-term value for businesses by building a trustworthy image and attracting socially responsible consumers. Transparent sustainability efforts foster strong consumer trust, providing a sustainable competitive advantage. Conversely, engaging in greenwashing can have severe consequences, including reputational damage, legal liability, and loss of consumer trust, all of which can negatively impact a company's long-term development. A damaged reputation can lead to reduced sales, strained business relationships, and difficulties in establishing new partnerships. Thus, maintaining authentic and sustainable CSR is crucial for the long-term stability and growth of businesses, enabling them to build a solid reputation and contribute positively to both the community and the environment.

4.5. Future research directions

Future research should focus on several key areas to better understand and address the greenwashing phenomenon, particularly in the construction industry. First, impact assessments are needed to evaluate the long-term effects of greenwashing on market dynamics and global sustainability goals. These studies can clarify how greenwashing influences consumer decisions, business competition, and progress toward achieving sustainability goals, providing a reliable basis for policy and regulatory improvements. Second, developing technological solutions is essential for detecting and monitoring greenwashing in real time. Advanced tools such as big data analytics, artificial intelligence (AI), and transparency monitoring platforms can enable rapid identification of greenwashing indicators, helping regulators and consumers make more informed decisions. Finally, cross-cultural research should explore how greenwashing manifests in different cultural and legal contexts. Understanding these variations will aid policymakers and international organizations in developing region-specific strategies to effectively combat greenwashing globally. These research directions will not

only contribute to the theoretical understanding of greenwashing but also provide a practical foundation for developing effective policies and tools to address it. The integration of theory and practice will ensure the feasibility and broad applicability of countermeasures across industries and regions.

5. Conclusion

Greenwashing poses a significant challenge to sustainability efforts in the construction industry, particularly in Vietnam. This study has demonstrated that inaccurate or misleading sustainability claims undermine stakeholder trust and weaken legitimate environmental protection initiatives. The content analysis of corporate reports, combined with survey results, reveals the widespread use of greenwashing tactics, including vague claims, unreliable certifications, and a lack of supply chain transparency. Consequently, stakeholder trust, especially among consumers and investors, is eroding, which presents a substantial barrier to achieving genuine sustainability.

To combat greenwashing effectively, it is crucial to increase transparency, enforce third-party audits, and establish strict legal regulations to prevent the dissemination of inaccurate environmental claims within the construction industry. These measures are essential to restoring stakeholder confidence and ensuring that sustainability efforts are both credible and impactful.

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