

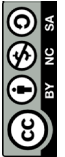
Unearthing Corporate Greenwashing: A Content Analysis of Sustainability Reporting in the Mining Sector

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Greenwashing is a common form of corporate disinformation that is often challenging for the general public to detect. Companies engage in greenwashing in their sustainability reports to mislead shareholders and stakeholders about their environmental efforts, seeking to enhance legitimacy and gain competitive advantages. While systems for identifying greenwashing exist, they typically focus on advertising, leaving greenwashing in corporate reports underexamined. This study aims to address this gap by conducting a qualitative content analysis of a climate report from a mining and commodity trading company, considering the company's profile, the report's target audience, and current research. The findings reveal that the company employs numerous subtle greenwashing strategies to project a more sustainable image through strategic omissions, hedging language and vague long-term goals. Moreover, this research contributes to the understanding of greenwashing in corporate reporting, which is typically aimed at a more informed audience, such as shareholders and experts, as

El greenwashing es una forma común de desinformación corporativa que a menudo resulta difícil de detectar para el público en general. Las empresas recurren al greenwashing en sus informes para engañar a los accionistas y las partes interesadas sobre sus esfuerzos ambientales, con el fin de mejorar su legitimidad y obtener ventajas competitivas. Aunque existen sistemas para identificar el greenwashing, estos suelen centrarse en la publicidad, dejando el greenwashing en los informes corporativos poco examinado. Este estudio tiene como objetivo abordar esta laguna mediante un análisis cualitativo de contenido de un informe climático de una empresa de minería y comercio de materias primas, considerando el perfil de la empresa, el público objetivo del informe y la investigación actual. Los hallazgos revelan que la empresa emplea numerosas estrategias sutiles de greenwashing para proyectar una imagen más sostenible a través de omisiones estratégicas, hedging y metas vagas a largo plazo. Además, esta investigación contribuye a la comprensión del greenwashing en la infor-

opposed to the general public. The results underscore the need for stricter regulation of sustainability reports and highlight the importance of fostering greater scrutiny among shareholders.

Keywords: *greenwashing, corporate communication, sustainability reporting, climate communication.*

mación corporativa, que se dirige a un público más informado, como accionistas y expertos, en lugar de al público en general. Los resultados subrayan la necesidad de una regulación más estricta de los informes de sostenibilidad y destacan la importancia de fomentar un mayor escrutinio por parte de los accionistas.

Palabras clave: *greenwashing, comunicación corporativa, informes de sostenibilidad, comunicación climática.*

As environmental responsibility gains importance in the public consciousness, corporations face increasing pressure to demonstrate their commitment to sustainable practices. While this public pressure has undoubtedly inspired some companies to adopt more environmentally friendly practices, it has also led to a rise in greenwashing, whereby organizations misleadingly portray their products or business practices as more sustainable than they really are (Freitas Netto *et al.*, 2020).

Greenwashing communication techniques have evolved to become increasingly sophisticated and thus more difficult to identify, partly in response to increased scrutiny following the exposure of various greenwashing scandals (Bowen, 2014). The greenwashing found in corporate environmental reporting stands in contrast to that in advertising, which has been the focus of much greenwashing research (e.g. Freitas Netto *et al.*, 2020). Yet corporate public relations, including sustainability reporting, is typically targeted at shareholders, potential investors, employees, and customers, while the classical target audience for advertising is consumers, so it is only natural that companies would adopt different communication strategies.

Corporate reports influence shareholders' decision-making processes and should therefore be held to a high standard of quality (Torelli *et al.*, 2020). Nonetheless, sustainability reports have repeatedly been found to lack objectivity and crucial disclosures, preventing investors from accurately evaluating a corporation's environmental efforts (Deegan and Rankin, 1996; Zharfpeykan, 2021). As a countermeasure, legal requirements for sustainability reporting have been introduced, aiming to improve environmental reporting and increase transparency. Yet these regulations are by no means standardized, and in many markets, they are inexistent or only recently introduced (Randazzo and Perozzi, 2023).

Communications scholars have developed various models for understanding corporate disinformation, including greenwashing (e.g. Carlson *et al.*, 1993; Nemes *et al.*, 2022; Ennis, 2023). To better understand how these systems for categorizing and examining green (washing) claims in advertising can be applied to corporate PR, a content analysis of the climate action plan of the world's largest mining company by revenue was conducted. The investigation of the communication strategies in the mining industry is especially compelling because natural resource extraction has enormous adverse impacts on the land, environment, water, soil and air (Worlanyo and Jiangfeng, 2021), yet companies are under pressure from stakeholders to demonstrate more ecological practices. The subject of this case study, Glencore plc, portrays itself as “advancing tomorrow through [its] transition-enabling commodities” (Glencore plc, 2024b, p. 1). Nonetheless, the company has been accused of greenwashing (e.g. Knaus, 2019), and shareholders have exerted pressure on the company to improve its sustainability reporting (cf. Glencore plc, 2023c).

To investigate how the language in the climate report compares to established greenwashing communication techniques, the content of the climate action report was coded using a mixed deductive-inductive approach. First, green claims in the text were coded deductively based on the greenwashing framework from Nemes *et al.* (2022), and then an inductive recoding process was conducted to identify any novel themes beyond the original framework. The analysis of these claims indicates that some strategies from greenwashing in advertising are also common in corporate reporting (e.g. selective disclosure), while other strategies were less common (e.g. outright lies). Moreover, a new greenwashing strategy which has not been previously reported was identified: the rhetorical technique of hedged assertion, or a claim with a qualification to express caution about its strength, was employed to epistemically weaken potentially contentious statements by framing them as beliefs.

GREENWASHING IN CORPORATE COMMUNICATION

A growing awareness for environmental issues has emerged, leading to a shift in consumer behaviour toward a preference for products and companies perceived as environmentally friendly (Naderer *et al.*, 2017). Consumers became willing to pay a premium for sustainable products, while public pressure on producers grew as environmentally harmful practices were exposed and scrutinized. Green claims originally focused on the advertised services and products, highlighting aspects such as a product's recyclability. In response to misleading environmental marketing claims, one of the first regulatory guidelines against greenwashing was released in the United States in 1992 (“Green Guides”; Federal Trade Commission, 1992). Nonetheless, the amount of misleading green advertising continued, in part due to the non-binding nature of the guidelines and the ambiguous wording (Rotman *et al.*, 2020).

Today, sustainability and environmental consciousness are integral components of corporate social responsibility (CSR). This development has led

organizations to strive to project a green image, with the products or services only one aspect. Environmental communication operations for this approach include corporate reports, corporate websites, and PR campaigns portraying organizations as voluntarily eco-friendly (Lyon and Montgomery, 2015).

Definitions of greenwashing vary, but it is generally understood to refer to the discrepancy between the communicated environmental efforts of an organization and its actual performance (Bowen and Aragon-Correa, 2014a; de Freitas Netto *et al.*, 2020). Depending on the communication strategy, it can be addressed to any combination of consumers, investors or other stakeholders. As it entails the purposeful distribution of misleading information, greenwashing is understood to be a type of disinformation (Naderer *et al.*, 2017).

The purpose of greenwashing is to ensure organizational viability and a competitive advantage (Cornelissen, 2000). Social and environmental disclosures can stem from legal requirements, pursuit of competitive advantages, external requirements in the form of demands from banks and shareholders, or industry-specific codes of conduct, including compliance with societal expectations (Deegan, 2002). In general, substantive green efforts have a positive effect on a company's performance, while green actions that are only symbolic and recognized as such have a negative effect (Walker and Wan, 2012).

The rise of greenwashing has led to increased scepticism of green claims in advertising or public relations, even true claims, as consumers have lost trust in companies (Naderer *et al.*, 2017). Even an organization's stakeholders, who are better informed than the general public about a company's practices, struggle to distinguish genuine sustainability from fraudulent green claims (Parguel *et al.*, 2015).

Corporate climate change communication is an under-researched topic (Vasquez, 2024), despite the role that companies can play in contributing to or reducing carbon emissions. Public pressure to (appear to) promote ecological practices can result in impression management via corporate social responsibility reporting (Jaworska, 2018), most prominently researched in the oil industry. These companies have been found to recognize the phenomenon of climate change while backgrounding the relationship to petroleum extraction and fossil fuel consumption, instead emphasizing techno-optimistic future solutions (Zhang and Zhang, 2024). The reports are dominated by references to "transition" and net-zero pledges, while a disconnect between the companies' investments and actions versus their sustainability discourse can be attested (Li *et al.*, 2022; Fuoli and Beelitz, 2023). Indeed, the companies typically portray themselves not as ecological villains, but as victims of climate change or as heroes and leaders in the energy transition (Dahl, 2022; Zhang and Zhang, 2024). Like the petroleum sector, the mining industry relies on the extraction of non-renewable natural resources, so it seems likely that similar communication strategies may be employed.

TYOLOGIES OF GREENWASHING AND CORPORATE DISINFORMATION

Greenwashing can influence people through functional or emotional appeals, and in practice a strategy combining both types of appeal is commonly employed (Naderer *et al.*, 2017). Functional green claims, for example the promotion of low carbon emissions, have a positive effect on the perception of a company's environmental image, with prior knowledge about sustainability increasing the effectiveness of these appeals. Meanwhile, emotional appeals in greenwashing employ intrapersonal communication mechanisms which invoke memories and personal values.

Scholars have responded to greenwashing by cataloguing, analysing and typologizing green claims. Carlson *et al.* (1993) created one of the first schemas for describing green claims, proposing a matrix consisting of five types of environmental claim which continues to guide greenwashing research today. The first type of green claims is *product-oriented*, i.e. focused on specific attributes of the service or product, such as biodegradability. A *process-oriented claim* highlights the sustainability of the production technique, the disposal method, or the organization's technology. Thirdly, *image orientation* seeks to associate the corporate identity with a popular environmental cause, thereby leveraging the public support to enhance the organization's image. A fourth strategy involves stating an independent *environmental fact*, even one wholly unrelated to the company, to leverage its validity and thereby bolster the credibility of the organization's other claims. Finally, a *combination claim* consists of multiple types. These green claims are not necessarily greenwashing, as they may genuinely communicate an organization's sustainable practices. Nonetheless, this typology also typically holds for greenwashing claims.

Carlson *et al.* also characterized types of deceptiveness. The first category involves *vague or ambiguous claims*, meaning the wording is unclear or has multiple possible interpretations. The next category of deceptiveness is the *omission of information* essential for the evaluation of a green claim's validity. Lastly, *false claims*, consisting of inaccurate and completely fabricated information, are recognized as the most misleading type of green claims. Additionally, a claim can contain a *combination* of the aforementioned categories.

More recently, Nemes *et al.* (2022) codified various existing models to create an integrated framework of greenwashing. The framework is divided into three categories, starting with those used to describe the company's environmental impact. The first type, *selective disclosure*, describes a claim which distracts from the organization's greater environmental impact. *Empty claims* exaggerate a company's achievements, while *irrelevant claims* tout accomplishments that are required by law or custom. Some claims are outright *lies*, while others are *just not credible*, promoting a choice that is harmful or controversial. The second category of greenwashing is based on (mis)alignment. For instance, *corporate responsibility in action* is a claim that does not represent an organization's true practice, while *dubious certifications and labels* misuse certifications to promote a sustainable image. The concept of *political spin* describes claims which boast a green

commitment, while the organization lobbies against environmental regulations. *Co-opted endorsement* claims that the organization's activities are endorsed by others. The final category describes deceptive communication practices. A claim with *no proof* is not supported by independent evidence, while a *vague claim* is poorly defined or so broad as to be meaningless. *Misleading symbols* are visuals that induce a false perception of greenness. The final type of greenwashing, *jargon*, entails using technical language which is difficult to understand.

CASE STUDY: GLENCORE PLC AND ITS CLIMATE ACTION TRANSITION PLAN

To gain insight into the practice of greenwashing in corporate environmental reporting, a prominent company from an inherently unecological industry was selected. Glencore plc is a multinational mining and commodity trading corporation and describes itself as “a leading integrated producer and marketer of natural resources, with worldwide activities in the production, refinement, processing, storage, transport and marketing of metals and minerals and energy products” (Glencore plc, 2024a). The multinational corporation's headquarters are in Baar, Switzerland, its oil and gas head office in London, England, and its registered office in Jersey, a British Crown Dependency with its own independent corporate law. Glencore currently operates more than 100 subsidiaries, with offices and operating sites in over 30 countries.

The company's earnings can be attributed to two main sources, energy products (i.e. coal and oil) and metals and minerals (e.g. zinc, copper, and iron ore; Glencore plc, 2024a). Currently, the majority of Glencore's earnings stem from energy products, which are primarily extracted in Africa, Australia and South America. Although Glencore started as a metals and crude oil trading firm, coal now constitutes the biggest share of both production volume and EBIT out of all industrial activities. Apart from gold, coal is Glencore's only commodity continuously growing in production volume.

The environmental and social impact of natural resource extraction is a common point of criticism (Malin *et al.*, 2019). Glencore's business operations as a mining corporation are inherently unsustainable, as the extraction of non-renewable resources, their further processing and associated waste disposal are unarguably detrimental to the environment. While issues such as contaminated soil, water pollution, and the depletion of agricultural resources predominantly affect local communities in the Global South, the carbon emissions associated with mining and the extracted commodities such as coal harm the environment on a global scale (Jenkins, 2004).

Glencore's environmental credibility is further limited by previous accusations of greenwashing. For instance, following increasing public pressure to move towards renewable energy, Glencore commissioned an astroturfing campaign to promote coal (Knaus, 2019). In this campaign (2017-2019), non-renewable energy was presented as indispensable for current energy needs, and disinformation about renewable energy was disseminated among the Australian public. After the

campaign was exposed, public trust in Glencore's commitment to CSR diminished greatly. In response, the company pledged to limit its coal production and invest in renewable energy, but the credibility of this commitment was undermined by statements from the CEO asserting that coal divestment would be pointless (Hume and Sanderson, 2020) and the subsequent expansion of its coal mining business (Glencore plc, 2023a). Furthermore, legal complaints have been lodged against Glencore for "misleading claims about climate impact" with Australia's advertising regulator, though later dismissed (Ad Standards, 2022).

Nevertheless, Glencore, the world's biggest miner by revenue, aims to position itself as an environmentally friendly company. Glencore has vowed to achieve net zero carbon emissions by 2050, and since 2020 the corporation has published regular environmental reports documenting its plans for a low-carbon future (Glencore plc, 2020). The company's spurious environmental policies have led to opposition from shareholders, notably at the 2023 annual general meeting (AGM). The management board proposed a resolution to approve the 2022 climate report (Resolution 13), which was rejected by 30% of shareholders (Glencore plc, 2023c), who called for greater clarity and disclosure, especially regarding the progress and governance of climate matters (Reuters, 2023). Additionally, a group of shareholders coordinated by the Australian Centre for Corporate Responsibility requisitioned Resolution 19, seeking disclosure on the alignment of Glencore's continued thermal coal production with its climate commitments and the Paris Agreement. The company argued vehemently against this resolution, calling it "unnecessary", "unclear", and "undermining [...] the Company's strategy", and recommended that shareholders vote against the resolution (Glencore plc, 2023c, p. 17). While it was ultimately rejected in the shareholder vote, it is noteworthy that 29% of votes were cast in favor of the resolution.

In response to this investor pressure, Glencore followed the Financial Reporting Council's recommendation¹ and consulted with shareholders on their areas of interest. The main concerns and Glencore's corresponding commitments were included in the 2024-2026 Climate Action Transition Plan (CATP) (Glencore plc, 2023b; 2024b). At the 2024 AGM, the resolution to approve the company's 2024-2026 CATP was rejected by fewer than 10% of voting shareholders, although this resolution poll had the lowest voter participation at the AGM (66%; Glencore plc, 2024c), suggesting there may be lingering concerns about the report. This episode illustrates the power of shareholders to demand more comprehensive environmental reporting and ultimately influence a corporation's strategy.

¹ According to the UK Financial Reporting Council, a vote of more than 20% against a board recommendation should lead to the company consulting shareholders on the reasons behind their rejection and an update on the resulting actions within six months after the AGM (UK Corporate Governance Code 2018 Provision 4, 2018).

MATERIALS AND METHODS

To gain insight into the greenwashing strategies employed in corporate sustainability reporting, the 2024-2026 Climate Action Transition Plan (CATP) of the commodity trading and mining company Glencore was selected for analysis (Glencore plc, 2024b). Glencore's reporting is particularly interesting for the analysis of greenwashing indicators, as the mining sector is highly polluting and inherently unecological, the company has been previously exposed for greenwashing, and there has been documented investor pressure to improve its environmental reporting.

Glencore's 2024-2026 Climate Action Transition Plan is a 35-page document prominently featuring the tagline "Energising today / Advancing tomorrow". The report consists of approximately 19,000 words, 13 photographs, 13 charts and diagrams, and two tables. The first section, "Introduction and context" (pp. 1-9), informs readers about the scope and purpose of the document, alongside various disclaimers that projections about the future are inherently uncertain, followed by a lengthy definition of "our emissions". The following pages include statements from the Chairman and the CEO, then a report on the company's acquisition of a majority interest in steelmaking coal unit Elk Valley Resources (EVR). Glencore's purpose ("to responsibly source the commodities that advance everyday life") and business model are illustrated in a large diagram. On pages 6-9, the company's position on climate and energy transition along with their decarbonization targets are presented.

The second section, "Our strategic pillars" (pp. 10-17), begins with the company's plans to improve operational performance, notably the reduction of emissions belonging to Scope 1 (direct emissions from sources that an organization owns or controls directly), Scope 2 (indirect market-based emissions that come from purchased or acquired energy) and Scope 3 (indirect emissions that are not produced by the company, but for which it is indirectly responsible). As Glencore mines carbon-based fuels such as thermal coal, Scope 3 emissions account for over 90% of their reported emissions footprint. The next item, "Advancing tomorrow", explains that metals such as copper, nickel, zinc, aluminum and cobalt are essential for the transition to low-carbon technology. The final item in this section describes how the company is adapting its business model to include recycling metals, carbon trading and carbon credits.

The third section is titled "Responsible business practice" (pp. 18-31) and begins with an overview of the company's governance framework for climate matters and descriptions of the relevant roles and duties. Next, Glencore's approach to risk management is presented, including climate-related physical risks (e.g. extreme heat), risks and opportunities associated with the transition to a low-carbon economy, and scenario forecasts for thermal coal, copper and nickel. The next item addresses the company's approach to capital allocation, particularly in the context of climate, followed by a description of Glencore's principles for a "just transition" to a low-carbon economy. Then the company's "External engagement" is described, reflected in goals such as the acceleration of clean technology, emissions reduction, transparent disclosure, and a just

transition. The section concludes with information on transparency and metrics, including an overview of which CSR topics are addressed in which corporate reports.

The final section, “Additional information” (p. 33), includes various disclaimers about planning and forecasting, climate change and sourcing. The report is not independently audited, and “Glencore accepts no responsibility for any loss, damage, cost or expense (whether direct or indirect) incurred by any person as a result of any error, omission or misrepresentation in information in this document”. The final page of the report contains the contact information for the company’s headquarters in Baar, Switzerland.

To analyse the sustainability claims in the CATP, a qualitative content analysis was conducted following Kuckartz and Rädiker (2018; 2019), supported by the software MAXQDA. The content of the CATP was coded with 13 a priori categories for identifying greenwashing derived from the integrated framework of greenwashing by Nemes *et al.* (2022, Table S1), including the 27 sub-categories. Codes referring to legal requirements or regulations were based on Swiss and UK legislation, the locations of Glencore’s headquarters and registered office, respectively. This framework was supplemented by TerraChoice’s category of *lesser of two evils* (“claims that may be true within the product category, but that risk distracting the consumer from the greater environmental impacts of the category as a whole”; 2012, p. 10), which has no clear correspondent in Nemes *et al.*’s framework. In the final round of coding, a new inductive category with no known precedent, a *hedged assertion*, was introduced. Hedging is a rhetorical strategy to mitigate the force of a claim (Lakoff, 1972). Specifically, a hedged assertion is a claim with a qualification to express caution about the strength of a claim (Benton and Elswyk, 2018); in the CATP this was typically expressed by adding the phrase “we believe”.

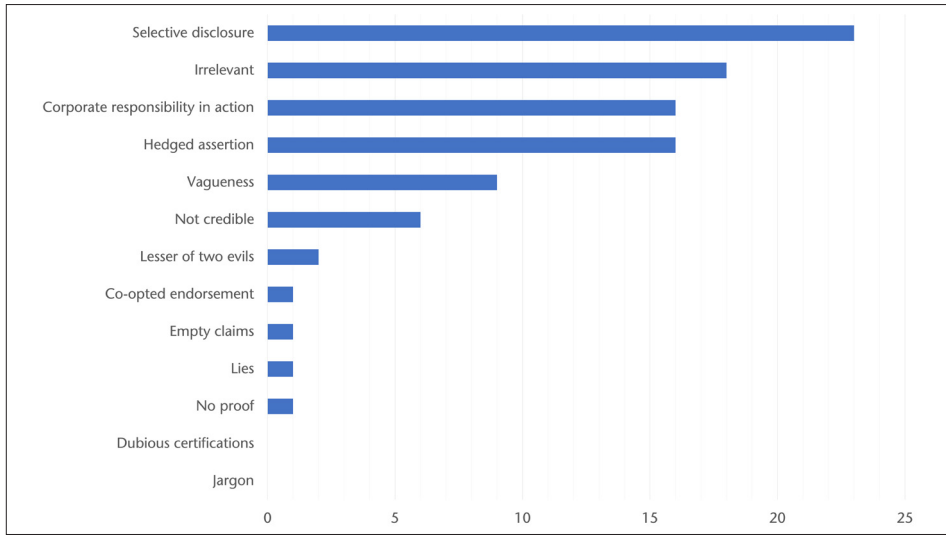
The content coding via MAXQDA was conducted in three rounds. In the first round, the fundamental validity of the deductive categories was affirmed. In the second round, the primary categories were coded. In the third round, the primary categories were verified and where relevant recoded with the appropriate subcodes. After the coding process was complete, the subsequent analysis was prepared using the analysis functions of MAXQDA. The Code Matrix and Code Relations Browsers in MAXQDA were employed to extract the coded segments and their attributes, as well as to identify intersections between codes. The resulting tables were then refined in a spreadsheet software and the analysis was supplemented through visualization tools.

FINDINGS AND ANALYSIS

The coding of Glencore’s 2024-2026 Climate Action Transition Plan generated 94 code applications for greenwashing. The content with the most coding instances referred to the acquisition of EVR (p. 4, N=12), the company’s sustainability goals (p. 6; N=10), the company’s position on offsetting and carbon capture (p. 17; N=16), and the description of the company’s transition efforts (p. 26; N=12).

The a priori codes based on the framework of Nemes *et al.* (2022) were applied a total of 76 times, and TerraChoice's (2012) category of *lesser of two evils* two times (Figure 1). The novel inductive code of *hedged assertion* presented 16 times.

Figure 1. Frequency of greenwashing coding applications



Source: The authors.

The theme of *political spin*, referring to an organization's anti-environmental lobbying efforts, is beyond the scope of this text analysis, and was thus not evaluated. The theme of *misleading symbols*, visuals designed to evoke an environmental sensitivity, was not independently coded due to its prevalence and a discussion of executional greenwashing in the CATP is included in the discussion.

Of the categories codified in Nemes *et al.* (2022), the most frequent greenwashing type is *selective disclosure* (N=23), describing instances where a narrow claim is used to mitigate a larger impact. This theme includes subcodes for the organization failing to consider cumulative environmental impacts², claims with an insignificant impact³, missing evidence of environmental impact⁴, or

2 "Scope 3 emissions associated with third-party volumes traded by our marketing business are not included in our emissions reporting and targets because, in our view, by trading in the third-party volumes, our activities do not generate additional Scope 3 emissions [...]" (p. 2).

3 "Our thermal coal production has decreased" (p. 9).

4 "As the focus on accelerating the circular economy grows, we support our customers in developing solutions that further battery and electronics/electrical circularity through provision of raw materials and responsible end-of-life processing and recycling of battery components [...]" (p. 17).

incomplete reduction of emissions⁵. The second most prominent theme, *irrelevant* (N=18), refers to accomplishments that are compulsory by law⁶ or the industry standard of practice⁷. *Corporate responsibility in action* (N=16) indicates claims that do not reflect consistent organizational practice⁸. The fourth most common code, *vagueness* (N=9), is reflected in claims without a defined scope⁹ or where emissions are not officially published¹⁰. Claims which are *not credible* (N=6) tout environmentally attributes of an unsustainable practice¹¹. The remaining themes were rare or not identified in the dataset.

The novel inductive code of *hedged* assertion was applied 16 times for instances of the phrase “we believe” as hedging device. These statements fall into three categories: claims lacking scientific evidence¹², framing legal requirements or generally accepted truths as part of Glencore’s belief system¹³, or shifting responsibility by calling for government action as a prerequisite to implementing

5 “We will prioritise reducing our emissions and consider offsetting our residual and hard to abate emissions on our road to meet our 2050 net zero ambition” (p. 17).

6 “We support the guidance on climate-related disclosures under IFRS S2, developed by the International Sustainability Standards Board (ISSB). Moving forward, we are preparing to align to its recommendations when it is implemented for companies listed in the UK” (p. 31).

7 “We support the goals of the Paris Agreement (Article 2, Paris Agreement) to limit the increase in the global average temperature to well below 2°C above pre-industrial levels [...]” (p. 6).

8 “We have therefore decided to remove the production cap, anticipating that our production of thermal coal should continue to decrease over time, reflecting our decarbonisation targets” (p. 9); in contrast to the announcement on p. 4 that Glencore has acquired a new majority stake in EVR, a steelmaking coal company. Or: “We aim to collaborate with key stakeholders, other mining companies and other industries to support civic dialogue and greater transparency in our operating countries” (p. 26); in contrast to previous accusations of astroturfing.

9 “We also have ongoing workstreams to mitigate, manage, and reduce our activities’ impacts on nature and natural capital” (p. 26).

10 “We have not addressed the treatment of the announced acquisition of a 77% interest in Elk Valley Resources (EVR) in relation to Glencore’s decarbonisation targets” (p. 2).

11 “Any such investments [in thermal coal or oil brownfield sites] will not compromise the delivery of our emissions reduction targets” (p. 25).

12 “However, we believe that the transition away from steelmaking coal for steel production will be slower than thermal coal, given the important role steel is anticipated to continue to play in supporting the construction of transportation and renewable energy infrastructure, and the expected limited availability in the medium term of alternative steel production technologies that do not require coal” (p. 9).

13 “We support meaningful and reasonable disclosure, transparency and traceability of product and organisational carbon footprint assessments, as for instance defined by the GHG Protocol. We believe these inventories should prioritise identification and disclosure of material sources of emissions, and follow consistent, harmonised data protocols, including attestability requirements” (p. 30).

sustainable practices¹⁴. In some instances, the hedge is a qualifier weakening a statement, seemingly to prevent it from being an outright lie.

The theme of *lies* merits some discussion. Only one segment was coded for this category, which is understandable considering the possible repercussions of misleading shareholders in a corporate report (Walker and Wan, 2012). The segment that was coded as a lie states: “In partnership with the Colombian government, we support local infrastructure programmes such as those addressing water access and education facilities” (p. 28). While Glencore received recognition for their programs from the government, they were not working in partnership. This statement further underscores previous conclusions that greenwashing strategies are often used in combination with one another (e.g. Carlson *et al.*, 1993). The statement invokes the Colombian government (*co-opted endorsement*), while the need for the supposedly altruistic projects ensuring access to water was caused by the consumption and contamination of the local water supply and the diversion of a river by Glencore for mining purposes (*corporate responsibility in action*; Kodde and Joanknecht, 2023).

DISCUSSION

The qualitative content analysis of Glencore’s 2024-2026 Climate Action Transition Plan aims to identify greenwashing in a corporate report through a system of indicators. The findings provide insights into the use of greenwashing strategies in corporate sustainability reporting, especially for sectors whose business practices are inherently unsustainable, such as the extractive mining of fossil fuels and rare earth metals.

Indicators of greenwashing were identified in 94 segments, although our coding application was very conservative to avoid redundancies or unwarranted overzealousness. For example, the entirety of page 4 is an extended exercise in post-denialism. This text passage, consisting of 742 words, describes Glencore’s acquisition of a major stake in a coal enterprise. The green claims are carefully formulated and highly selective, for example: “We concluded that while not a metal, steelmaking coal is an important transition-enabling commodity as it is an essential input into much of the world’s steelmaking in its current form” (p. 4). While it is true that steel is required for some elements of the energy transition, such as the construction of wind turbines, not all steel is ultimately used in ecological products; nor is the combustion of carbon-based fuels as part of the steelmaking process an environmentally friendly practice; nor is coal the only energy source that can be used for producing steel. As such, this single claim could be simultaneously coded as an *empty claim* (the potential use of

14 “For example, we believe significant power sector reform is needed (both within and across national borders) to drive the energy transition, given that many governments are still demanding significant levels of fossil fuels to support their energy systems” (p. 6).

steel in the energy transition justifies the use of fossil fuels for its manufacture); *selective discourse* (steelmaking coal is better than thermal coal); or *vagueness* (the statement does not acknowledge which portion of the world's steel relies on coal, or that there are more sustainable energy alternatives). We ultimately coded this segment as *corporate responsibility in action*, as the act of expanding the stake in coal mining while claiming this to be an environmental practice seemed the most egregious claim, but closer parsing would have led to even more coding applications for this and numerous other segments.

Beyond the sheer frequency of greenwashing claims, even with our conservative coding system, the lack of consensus on a system for weighting greenwashing claims makes it difficult to judge the extent to which Glencore may be misleading its shareholders. An absolutist approach, as advocated by Nemes *et al.* (2022), would contend that even a single indicator of greenwashing is evidence of the practice. Therefore, the volume of greenwashing indicators identified in the CATP provides a compelling argument for the allegation that Glencore is engaging in greenwashing. Notably, the disclaimers on the pages 2 and 33 aim to protect Glencore from legal liability for misleading statements¹⁵.

Our focus on corporate sustainability reporting reveals some differences in greenwashing compared to advertising, which has been investigated more extensively in the academic literature. One of the common assumptions of greenwashing is that the receiver can be deceived and manipulated by the language used. Yet the target audience for corporate reporting consists of stakeholders with a vested interest in the company and greater knowledge about the sector. As such, it seems likely that investors reading a corporate report are better positioned to detect misleading facts or language, including greenwashing. Glencore's CATP was not found to contain instances of *jargon*, *unclear/ambiguous words*, or blatant *green talk*, which may have been readily exposed among an informed audience. The additional risk of legal ramifications was also likely a deterrent against outright *lying*. Rather than relying on deceptive language, the report focuses on small initiatives and minor aspects of the business while avoiding detailed strategies or addressing the overall environmental impact. This finding echoes Jaworska (2018), which illustrated that CSR reports in the oil industry perform "discursive grooming" (Pilger, 1998) of public perception to create the impression that climate

15 "This document has not been prepared as financial or investment advice or to provide any guidance in relation to our future performance. [...] Due to the inherent uncertainty and limitations in measuring greenhouse gas (GHG) emissions and operational energy consumption under the calculation methodologies used in the preparation of such data, all CO₂e emissions and operational energy consumption data or volume references (including, without limitation, ratios and/or percentages) in this document are estimates. There may also be differences in the manner that third parties calculate or report such data compared to Glencore, which means that third-party data may not be comparable to Glencore's data" (p. 3). Much of the language on page 33 is repeated verbatim.

change is being proactively addressed. Damaging subjects like the petroleum sector's contribution to climate change are backgrounded or weakened through hedging, while technological or market-based future goals are pledged and the industry portrayed as a victim of climate change.

This content analysis uncovered a novel indicator of greenwashing: the use of *hedged assertions* to introduce contentious claims into the communicative space while disavowing accountability for their truthfulness (cf. Hyland, 1998). By prefacing potentially misleading or even false statements with phrases like “we believe,” the company projects an epistemic stance weaker than knowledge, thus attempting to shield themselves from legal or reputational consequences. Betz-Richman (2022) argues that an untruthful hedge, which deliberately misrepresents an epistemic position, constitutes a form of deception equivalent to lying. Accordingly, we contend that a hedged assertion designed to mislead—particularly in the high-context setting of a corporate report—should be regarded as equally egregious as an outright lie.

One element which has not yet been discussed is the use of visual, or executional, greenwashing in the CATP (cf. Parguel *et al.*, 2015). The CATP includes several photos depicting images such as people in safety gear, landscapes, or a greenhouse with vegetation. None of the photos shows the mining and processing of coal, oil or metals, despite their significance to Glencore's revenue stream. Shades of green, blue, and brown, which are used to evoke nature and can be viewed as a form of greenwashing, are used prominently throughout the report. As Glencore selected turquoise as its corporate colour, this colour scheme could arguably be considered a calculated use of visual greenwashing, or simply consistent application of corporate design.

This intensive investigation of greenwashing in corporate reporting can be expanded to relate to other deceptive communicative practices. One relevant schema is provided in Ennis (2023), who adopted a framing approach to propose nine strategies for what he calls dark PR, or corporate disinformation campaigns to reframe global problems including climate change. The three counter-factual frames include *denialism*, claiming there is no problem, followed closely by *post-denialism*, which argues that a negative effect such as global warming is indeed positive, and *normalization*, which claims that the situation is normal. Four pseudo-solutions are characterized. The *silver boomerang*, also known as the Jevons effect, describes a solution with a negative rebound effect, for example when technological progress increases resource efficiency, but the falling cost leads to increased demand. Similarly, a *magic solution* is a promised process or product which may never materialize. The *treatment trap* emphasizes treating an outcome rather than preventing it, while *victim blaming* shifts the blame from the policy or organization causing a problem to the people victimized by it. Finally, the *knotted web* argues that the problem is complex and has no clear answer, implying that the pursuit of a solution is not worthwhile. As in the other models, a *multifactorial* approach can combine the frames above to muddy the waters even further. Most, if not all, of these strategies can be found in Glencore's CATP. Concepts which were not included in Nemes *et al.*'s (2022) descriptors of greenwashing, but certainly present in the CATP, are the *silver boomerang*

(characterizing steelmaking coal as contributing towards the energy transition, which may ultimately deter investment in more sustainable practices) and *magic solutions* (future recycling of scrap materials and metals in batteries to reduce the need for mining).

In summary, the climate action report demonstrates numerous instances of greenwashing strategies, especially in proportion to the brevity of the report (37 pages, only 32 of which have significant text) and our conservative coding policy. As the 2022 climate report faced significant opposition due to shareholder desire for greater clarity and disclosure, together with previous greenwashing scandals, it seems likely that more instances of greenwashing may have been present if there had not been prior issues.

CONCLUSIONS

This qualitative content analysis of Glencore's 2024-2026 Climate Action Transition Plan (CATP) indicates strategic use of discursive greenwashing to present the company as environmentally friendly and future-oriented, while obscuring the true environmental impact of its inherently unsustainable operations. The findings reveal that Glencore's green claims rely on hidden tradeoffs, vague plans for recycling and lowering emissions, highlighting negligible initiatives, and touting legally required actions as voluntary environmental efforts. Meanwhile, Glencore's main revenue stream, the mining of coal and metals, is generally underreported or presented as a necessary business practice for the transition to renewable energy. Rather than modifying its business model, Glencore positions its business practices as more sustainable than they really are.

While previous frameworks of greenwashing and corporate disinformation, most notably Nemes *et al.* (2022), were validated by the communicative strategies employed in the CATP, this analysis suggests two significant developments for the study of greenwashing. Firstly, blatant greenwashing, such as the use of jargon, green talk or lying, which are commonly reported strategies in advertising, was avoided in this corporate report. This shift is likely due to two factors: the risk of repercussions for obvious disinformation in a corporate sustainability report of a publicly traded company, and the higher level of knowledge that can be presumed among the target audience. The result is more subtle and sophisticated greenwashing techniques. To identify the indicators of greenwashing in the CATP, a comprehensive understanding of the mining industry and its products, the relevant legal frameworks, the environmental impact of the company's portfolio and its business strategy are necessary. Expecting the average reader to invest this degree of research is unreasonable, although investors and institutional shareholders can be presumed to possess greater contextualized knowledge.

Secondly, the combination of selective disclosure and hedged assertions emerged as a significant greenwashing strategy in the CATP. Through selective disclosure, Glencore emphasizes small initiatives and vague commitments, giving the impression of progress without offering concrete details (cf. Jaworska, 2018). At the same time, it downplays or omits the company's broader

environmental impact. Notably, this study identified a novel strategy for corporate greenwashing: the use of hedged assertions (“we believe”) to subtly deflect responsibility by framing green claims as opinions rather than facts. This strategy allows the company to avoid full accountability and diminish the risk of legal repercussions, while still making the assertion. Collectively, these tactics create a misleading narrative for stakeholders and should therefore be recognized as a critical indicator for corporate greenwashing in sustainability reports, requiring further scrutiny in future research.

Notably, Glencore has backpedaled from some of its green projections since publishing the CATP in March 2024. In August 2024, the company announced that it would not follow through on the demerger of its coal business (Glencore 2024d), a scenario projected in the CATP implying a transition to more sustainable business practices. While the company justifies the decision as a response to shareholder preferences and the potential for enhanced cash generation, this move appears to prioritize short-term financial gains over the broader imperative of reducing carbon-intensive operations. By maintaining its coal assets, even under the guise of a “responsible decline,” Glencore risks undermining its stated climate goals and the global push for decarbonization. Moreover, the increased debt cap (from \$5 billion to \$10 billion) further signals a focus on capital flexibility rather than an aggressive reduction of coal-related activities. For critics, this decision exemplifies a tension between profit maximization and meaningful climate action, raising doubts about Glencore’s willingness to align fully with the principles of a low-carbon economy.

The analysis of the 2024-2026 Climate Action Transition Plan has implications for policymakers, investors, and environmental advocates. It demonstrates that legal requirements and oversight for sustainability reporting are necessary, as Glencore has not altered its potentially deceptive communication strategy, despite previous accusations of greenwashing and significant shareholder opposition to past reports. Even though legal requirements for sustainability reporting have become stricter in many European countries, the current legislation in Switzerland and the UK is not sufficient for preventing companies from greenwashing in their reports; and clearly, self-regulation cannot be expected. More rigorous guidelines on the content of sustainability reporting should be developed and enforced, especially concerning the detailed disclosure of a corporation’s current environmental impact.

Furthermore, the evidence for increasing sophistication of greenwashing strategies calls for independent experts to audit sustainability reports. The improvement of accountability and transparency can only be ensured if deceptive disclosure practices are identified by experts with familiarity with the industry, the relevant legal regulations and strategies of corporate disinformation. Investors also bear responsibility to conduct thorough due diligence when evaluating green claims.

Despite the greenwashing and unsustainable practices highlighted in this analysis, we remain hopeful that greater awareness of corporate disinformation, along with increased scrutiny, will drive more transparent and honest corporate reporting, ultimately fostering more sustainable business practices.

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