Epistemic stance markers in corporate social responsibility reports: a discourse analysis of energy sector communications

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This study examines epistemic stance markers (ESM) in Corporate Social Responsibility (CSR) reports, focusing on how energy companies manage uncertainty and establish credibility in sustainability communications. Using Marín-Arrese's classification framework, I analyzed 10 CSR reports (152,084 words) from Fortune 500 energy companies (2014–2018) through directed content analysis, identifying four categories of epistemic stance markers. The analysis revealed 357 epistemic stance markers: modal expression markers (58.8%), external source markers (20.2%), mental state verbs (19.6%), and inferential markers (1.4%). This distribution reflects strategic patterns prioritizing uncertainty management and external validation for reputation management. Epistemic stance markers function as sophisticated reputation management tools in high-scrutiny industries, enabling companies to balance stakeholder accountability with operational flexibility. This research provides the first systematic examination of epistemic stance markers in CSR reports, addressing a significant gap in business discourse analysis and contributing to corporate communication theory.

KEYWORDS

business communication, corporate reputation, corporate social responsibility, discourse analysis, energy sector, epistemic stance markers

Introduction

Epistemic stance markers play an important role in accomplishing communicative purposes in both written and spoken discourse. Typically realized through epistemic modality and evidentials (Palmer, 2001), epistemic stance markers function to express the writer or speaker's knowledge or assessment regarding the validity of the propositions (Palmer, 2001; Marín-Arrese, 2011). They are important resources to communicate the stance of certain speakers and writers toward their assertions and commitments (Marín-Arrese, 2011). As a typical written discourse, CSR (Corporate Social Responsibility) reports also concern the stance of certain writers or speakers.

Previous studies have focused on the function and characteristics of epistemic stance markers across various genres, for example, in political discourse (Marín-Arrese, 2015a), journalistic discourse (Marín-Arrese, 2015b; Alonso-Almeida and Luisa Carrio-Pastor, 2019), etc. However, little attention has been paid to the genre of business and its business disclosure (e.g., corporate social responsibility (CSR) reports). CSR reports deliver information on a variety of environmental, social, and corporate governance issues, such as energy use, pollution, diversity, health and safety, and human rights (Favotto et al., 2016). CSR reports can be regarded as a hybrid discourse genre that combines informative and promotional elements (Malavasi, 2011). CSR reports play an important role in promoting a company's image and further shaping customers' decisions (Mohr et al., 2001; Ben Youssef et al., 2018). Whether for

informative purposes or promotional purposes, their realization often depends on the strategic use of epistemic stance markers (Fuoli, 2018). Often, through the use of such linguistic devices, the company seeks to present a "green, socially responsible corporate image" (Skulstad, 2008).

Given the insufficient attention paid to the genre of CSR reports, where epistemic stance markers are of special significance in conveying the speakers' or writers' epistemic commitments, this study aims to investigate and analyze the patterns of epistemic stance markers used in this specific genre. To achieve this aim, this paper will (a) identify the use of epistemic stance markers in CSR reports and (b) examine the frequency and functions of discourse markers in these texts. Specifically, this study seeks to address two questions:

1. What is the distributional pattern of epistemic stance expressions in CSR reports?
2. How are epistemic stance strategies manifested linguistically in the selected corpus?

The remainder of the paper is arranged as follows: Section 2 provides a comprehensive literature review of CSR communication research and discourse analytical approaches to CSR reports. Section 3 introduces the theoretical framework of epistemic stance-making and our analytical approach. Section 4 presents the data collection and methodology. Section 5 reports and discusses the quantitative and qualitative findings. The paper concludes with implications for CSR communication theory and practice.

Literature review

The field of corporate social responsibility (CSR) has evolved significantly over recent decades, with scholars establishing robust theoretical foundations for understanding corporate environmental and social accountability. Aguinis and Glavas (2012) provide a comprehensive review of CSR scholarship, identifying both established knowledge and critical gaps in understanding. Their analysis reveals that CSR research spans multiple disciplines and affects various stakeholder relationships, demonstrating the field's theoretical maturity and practical importance.

Corporate social responsibility (CSR) is an umbrella concept that can take various forms depending on the company and industry, and it is defined as 'the responsibility of enterprise for their impacts on society' (European Commission, 2011, p. 6). This definition encompasses the economic, social, ethical, philanthropic, and environmental concerns that companies must address in their business activities and stakeholder interactions (Aguinis and Glavas, 2012). The primary genre for delivering CSR information is the CSR reports issued by businesses, the main objective of which is to give a comprehensive factual account of a company's strategies and accomplishments in social and environmental sustainability (Fuoli, 2018). CSR reporting involves the disclosure of corporate activities demonstrating the economic, social, ethical, philanthropic, and environmental concerns in business activities and in interactions with stakeholders (Aguinis and Glavas, 2012).

CSR communication represents a distinct subfield within CSR research that focuses specifically on how companies disclose and present their social and environmental activities to various stakeholders. Du et al. (2010) emphasize that effective CSR communication plays a crucial role in "maximizing business returns to corporate social responsibility" by establishing connections between CSR initiatives and stakeholder perceptions (p. 8). This communication function extends beyond simple information disclosure to encompass strategic reputation management and stakeholder engagement.

The objectives of CSR communication are closely tied to organizational reputation and image management. Research consistently demonstrates that CSR discourse contributes to enhancing company reputation and stakeholder relationships (Du et al., 2010). Lee et al., (2016) specifically examine the "linkage between increased awareness and purchase intention," finding that consumers' responses to CSR activities are significantly influenced by communication effectiveness (p. 193). CSR communication thus serves multiple strategic functions: building organizational legitimacy, managing stakeholder relationships, enhancing corporate reputation, and mitigating potential risks associated with environmental and social impacts.

Ellerup Nielsen and Thomsen (2007) explore the complexities of CSR reporting, addressing fundamental questions of "what and how to say it" in CSR communications. Their work highlights that CSR communication involves careful strategic decisions about information selection, framing, and presentation. Similarly, Liao et al. (2017) conducted content analysis of international contractors' CSR reporting, revealing systematic patterns in how companies communicate their social responsibility efforts.

For the past several decades, scholars in business and accounting fields have demonstrated increasing interest in the discourse of CSR reports, and many studies have revealed that the discourse of CSR contributes to the enhancement of a company's image (Kim et al., 2017; Ben Youssef et al., 2018; Yu and Bondi 2017, 2019; Lin, 2019). This trend occurs within a broader academic context where discourse analysis has gained prominence. Discourse analysis conceptualizes discourse both as 'a particular way of talking and understanding the world' (Jørgensen and Phillips, 2002, p. 1) and as 'a practice representing, signifying, constituting, and constructing social realities' (Fairclough, 1992, p. 64; Ferguson et al., 2016, p. 280). The application of discourse analysis to CSR communication represents a methodological approach to understanding how corporate sustainability communications construct particular versions of social and environmental reality.

CSR discourse, as a business genre, constructs and includes certain social realities of corporate social responsibilities while ignoring and excluding others at the same time (Ferguson et al., 2016, p. 280; Spence, 2007, p. 859; Bourdieu, 1977). This recognition has led to increased interest in critical approaches to CSR communication analysis. Dobers and Springett (2010) argue that CSR communication involves complex "discourse, narratives and communication" that require sophisticated analytical approaches to understand their full implications. The critical turn in CSR communication research recognizes that corporate communications do not simply transmit neutral information but actively construct particular versions of social reality while potentially obscuring others.

Several studies have applied critical discourse analysis specifically to CSR communication, demonstrating the value of this methodological approach. Rajandran and Taib (2014) conducted critical discourse analysis of Malaysian CEO statements, revealing

how "the representation of CSR" varies across cultural and organizational contexts. Their analysis uncovered underlying power structures and ideological positions embedded within seemingly neutral CSR communications. Similarly, Pollach (2003) examined corporate ethics communication on company websites using discourse analysis, demonstrating how digital platforms shape the presentation and reception of CSR messages.

Previous discourse analytical studies of CSR reports have mainly been conducted through the lens of three major approaches:

The first approach is concerned with genre analysis, which is the study of the structural and linguistic regularities of particular genres or text types and the role they play within a discourse community (Dudley-Evans and St John, 1998; Paltridge, 2012; Gerot and Wignell, 1994; Yu and Bondi, 2017, 2019; Lin, 2019). Yu and Bondi (2017) examined 18 CSR reports published in three different languages (Chinese, Italian and English). Focusing on the performative-reporting sections, they found that 15 major rhetorical moves were used in this part, and it can be further classified into four macro-moves: (1) presenting the company; (2) presenting the company's CSR strategy; (3) reporting on the company's CSR activities and performance; (4) situating the context. Recently, Yu and Bondi (2019) further explored the previewing future performance in the corpora, including potential expressions of futurity, and analyzed words of change across the three languages (Chinese, Italian, English). Lin (2019) also conducted a genre-based analysis of CSR reports, but her study focused on the companies' poor performance and only examined Chinese companies. Her study focused on the rhetorical moves through which negative business information was typically disclosed.

Another approach focused on the use of metaphors in CSR disclosure. For example, Liversey (2002) examined an array of metaphors used in sustainable reports by two companies, revealing the functions of metaphors (e.g., heart metaphor) in portraying the depicted company as transparent and careful institutions. More recently, Siltaoja (2009) investigated the game metaphor and pampering metaphor in CSR reports, concluding that such metaphors could be used to construe a responsible company and help achieve legitimacy. Likewise, Sun et al. (2018) explored the linguistic metaphors used in CSR reports, but the focus of their study was to compare metaphors in Chinese and American company reports. Their study identified the most frequent metaphors used in CSR reports across the two cultural contexts (businesses are objects; business is war; business is a journey; and business competition is competitive games/sports).

The third approach looking into CSR disclosure derives from the interpersonal metafunction in SFL, which highlights "language as action." Apart from construing realities, language also plays an essential role in enacting interpersonal and social relationships. The clause of the grammar is not only a representation of our internal and external world experiences—as processes of doing or happening, saying or sensing, being or having, with its various participants and circumstances; it is also a unit of exchange (i.e., a proposition or a proposal), whereby we inform or question, give an order or make an offer, and express our appraisal of and attitude toward whomever we are addressing and what we are talking about (Halliday et al., 2004, p. 29). For example, Livesey (2002, p. 246) showed that emotive words (e.g., caring, wanting, striving and pride) are frequently used in reports. Recently, Goletiani (2011) found that superlative and positive

evaluative expressions are typical in such discourses. Similarly, Fuoli (2012) demonstrated how BP and IKEA deployed interpersonal resources to portray themselves as trustworthy or caring corporations. In another major study, Fuoli (2018) examined the notion of stance in two genres (annual reports and CSR reports), illustrating the role that stance resources played in constructing companies as unbiased, rational, committed, and honest, in annual reports and CSR reports, respectively.

These three discourse analytic approaches have shed light on various aspects of the generic and discursive practices in CSR reports. However, few of them have paid due attention to the working mechanism of epistemic stance markers in CSR. One exception is Fuoli (2018) comparative analysis of stance-making between annual reports and CSR reports. In spite of that, it should be noted that Fuoli (2018) study is mainly quantitative and does not focus on epistemic stance-making. Given the established theoretical foundations of CSR communication and its established relationship with organizational reputation management, there remains a significant gap in understanding how companies use epistemic stance markers to navigate uncertainty, establish credibility, and maintain stakeholder relationships in their sustainability communications. A more fine-grained, in-depth, and qualitative scrutiny of the significance of epistemic stance markers in CSR reports is needed. To address this gap, I attempt to explore the epistemic stance expressions used in CSR reports by delving into one important sector of CSR—the energy sector.

Epistemic stance making

Epistemic stance-making is concerned with "positioning of the speaker/writer with respect to knowledge about described events and their commitment to the validity of the communicated information" (Marín-Arrese, 2015b, p. 211). Epistemic stance is composed of evidentiality and epistemic modality (Boye, 2012, p. 2–3). According to Anderson (1986), evidentiality denotes the kind of "justification" that a speaker has for making a claim, including direct observation-based evidence, evidence plus inference, inference with unspecified evidence, an expectation from logic, etc. (p. 274). While epistemic modality applies to assertions and indicates the extent to which the speaker is committed to the truth of the proposition (Bybee et al., 1994, p. 179). Epistemic modality concerns the speaker's/writer's degree of commitment to the truth of propositions and "applies to assertions and indicates the extent to which the speaker is committed to the truth of the proposition" (Bybee et al., 1994, p. 179). Based on her research on political and journalistic discourse, Marín-Arrese (2015a) proposed that epistemic stance could be achieved by using four major strategies.

The transfer of this framework from political to CSR discourse is justified on several grounds. First, both genres share fundamental communicative tasks: managing credibility with potentially skeptical audiences and positioning toward uncertain future outcomes (Fairclough, 2003). Second, political and corporate actors are subject to comparable accountability pressures, politicians negotiate electoral accountability, while corporations navigate stakeholder accountability (Du et al., 2010). Third, Marín-Arrese's framework is built around universal epistemic categories (evidentiality and epistemic modality) that operate across institutional contexts rather than around narrowly

genre-bound features. The four-category framework therefore captures fundamental epistemic resources available to any speaker or writer managing knowledge claims and degrees of commitment. While adopting Marín-Arrese's theoretical categories, this study interprets their functions within the specific strategic context of corporate reputation management.

Building on Marín-Arrese's analysis of political discourse, this study identifies a range of epistemic legitimisation strategies across the domains of modality and evidentiality and adapts them to CSR communication. Rather than importing a predetermined analytical template from political communication, the analysis uses her theoretical insights to develop a four-category framework specifically calibrated to CSR discourse. This framework operationalizes Marín-Arrese's epistemic domains within CSR reports and serves as the basis for the classification of epistemic stance markers presented in Table 1.

Data and methodology

The corpus for this research consists of CSR reports from Fortune Top 500 global corporations in the energy sector (oil, gas, and other energy providers). To ensure a manageable yet broadly representative sample, 100 CSR reports published between 2014 and 2018 were first identified from corporate official websites. From this initial corpus, stratified random sampling was employed to select 10 CSR reports (152,084 words in total) for detailed analysis. The sampling procedure involved three steps: (1) reports were stratified by company size based on Fortune 500 ranking to ensure representation across large and mid-sized energy companies; (2) within each stratum, reports were assigned random numbers using a random number generator; and (3) reports were selected proportionally from each stratum. This approach was designed to capture the diversity of CSR communication practices across the energy sector while retaining analytical feasibility.

The sample size of 10 reports is justified on both practical and methodological grounds. Following O'Keeffe and McCarthy's (2010: 67) principle that "small specialized corpora give insights into patterns of language in particular settings," the corpus prioritizes depth of analysis over breadth of coverage, in line with established practices in discourse analysis (Flowerdew, 2004). Saturation analysis conducted during coding indicated that patterns of epistemic stance markers stabilized after approximately 7–8 reports, suggesting that the selected sample is sufficient to reveal recurrent strategies. Energy sector

companies were chosen because of their significant environmental impact, the high level of public scrutiny surrounding their environmental claims, their complex regulatory and stakeholder environments, and the resulting emphasis on CSR communication.

The analysis was supported by several computer programs. The original CSR reports in PDF format were converted into TXT format using Abby FineReader 12, followed by manual checking and correction of textual errors. Once the corpus had been compiled, AntConc 3.4.4 (Anthony, 2014), a freeware multiplatform concordancer, was used to search for epistemic stance markers. The data were then examined using the method of directed content analysis (Hsieh and Shannon, 2005), informed by existing theory and prior research. An integrated framework developed from previous studies (see Table 1) was used to guide the data analysis. As Hsieh and Shannon (2005, p. 1281) argue, "existing theory or prior research can help provide predictions about the variables of interest or about the relationships among variables, thus helping to determine the initial coding scheme or relationships between codes." In this study, the data were analysed through directed content analysis guided by an integrated theoretical framework of epistemic stance expressions adapted from Marín-Arrese (2011, 2015b).

To ensure analytical reliability, the coding process followed established protocols for directed content analysis (Hsieh and Shannon, 2005). A random sample of 20% of the identified markers ($n = 72$) was independently coded by a second researcher trained in the analytical framework. Inter-coder agreement was calculated using Cohen's Kappa, yielding $\kappa = 0.87$, which indicates substantial agreement (Landis and Koch, 1977). Disagreements were resolved through discussion and consensus, and ambiguous cases were documented in a coding memo to enhance transparency in the analytical process.

Findings and discussions

This section will present and discuss the observed epistemic stance markers deployed in the corpus under study. I will present the statistical results regarding the frequencies and the distributions of the aforementioned four categories of epistemic stance markers and then elaborate on different types of epistemic stance markers, illustrated with specific examples. Importantly, the analysis extends beyond tactical linguistic choices to examine how these patterns serve strategic

TABLE 1 Epistemic stance strategies.

Category	Theoretical domain	Definition	Examples
Inferential Markers	Evidentiality (source of knowledge)	Indicate both perceptual-based and conceptual-based inferences, inferential meaning based on information acquired through oral and written reports	Seem, appear, look, clearly, obviously, evidently, apparently
External Source Markers	Evidentiality (source of knowledge)	Non-personal, indirect, external access to the evidence through other speakers'/writers' reports	According to x, said, told, seem, appear, apparently, supposedly
Modal Expression Markers	Epistemic modality	Speaker's/writer's estimation concerning the veracity of the event designated and the likelihood of its realization	Must, may, might, could, certainly, surely, probably, possibly, perhaps
Mental State Verbs	Epistemic modality(commitment indicators)	Cognitive evidentials, or verbs of mental state or cognitive attitude 'which indicate speakers' reflective attitudes or beliefs regarding representations	I/we know, I/we think, I/we believe, I/we suppose

Adapted from: Marín-Arrese (2015a, p. 212) and Marín-Arrese (2011, p. 791).

CSR communication objectives, particularly in relation to organizational reputation management and stakeholder relationship building.

Table 2 above shows the raw count and normalized frequencies of epistemic stance markers in the CSR reports. All the markers identified fall neatly into one of the four categories proposed by Marín-Arrese (2011, 2015b). Examples excerpted from the corpus are presented in brackets (a list of epistemic stance markers identified is shown in Appendix). From Table 2, we can find that the writers of CSR reports used epistemic modality at a remarkably higher frequency than the other three markers, accounting for 59% of all epistemic stance markers. The indirect reportative ranked as the second most frequently used strategy to portray epistemic stance, followed by cognitive verbs and indirect inferential in order of frequency.

This distribution pattern reveals a strategic communication approach where energy companies prioritize uncertainty management (epistemic modality) and external validation (reportative evidentials) as primary reputation management tools. As Du et al. (2010) note, effective CSR communication must "maximize business returns to corporate social responsibility" while maintaining credibility with diverse stakeholder groups. The predominance of epistemic modality markers suggests that companies systematically manage stakeholder expectations by reducing certainty about future environmental outcomes. This approach represents a critical strategy for maintaining organizational legitimacy in industries subject to intense public scrutiny. The frequency distribution, with modal expressions dominating over external sources and mental state verbs, while inferential markers remain minimal, reflects a coherent strategic approach. This pattern demonstrates how energy sector companies have adapted their communication strategies to industry-specific challenges, transforming uncertainty from a potential liability into a sophisticated tool for reputation management.

Uncertainty management strategies (modal expression markers)

Epistemic modality, as demonstrated in section 3, can be achieved by modal verbs, such as may, might, could, etc. The function of epistemic modality is to reduce or enhance the writer's or speaker's complete commitment to a proposition (Hyland, 2004; Hyland and Tse, 2005). I will discuss the most frequently used modality markers in the corpus, mostly modal verbs. In my analysis, I examine how these strategies are used to describe probable results or situations, which serve as an attempt to avoid an overt imposition on the readers and attenuate epistemic commitment toward the promise. Below, I

analyze the four most frequently occurring epistemic modality markers in our corpus: 'may', 'could', 'might', and 'would'. The subtypology of epistemic possibility (e.g., could, may) indicates uncertainty, as a particular 'event is judged to have been an equal possibility of occurring or not' (Di Carlo, 2013, p. 110). In these examples, the company concerned cannot fully account for its claims and resorts to the deployment of modal verbs in order to limit the epistemic support of the statements.

The systematic deployment of modal expression markers serves multiple organizational reputation functions that extend beyond simple linguistic hedging. The predominance of modal markers (58.8% of all instances) reflects their central role in managing stakeholder expectations while protecting organizational reputation from accountability risks. Energy companies operate within highly uncertain environmental contexts where sustainability outcomes depend on technological developments, regulatory changes, and external factors beyond corporate control. Modal verbs such as 'may,' 'could,' and 'might' allow companies to communicate commitment to environmental initiatives while maintaining interpretive flexibility essential for reputation preservation.

Energy companies face what we term the "credibility paradox" they must communicate sustainability commitments convincingly while acknowledging their industry's inherent environmental challenges. The modal verb patterns identified reveal two main reputation management strategies. The first strategy involves risk mitigation. By reducing certainty about environmental outcomes and sustainability initiatives, companies protect themselves from accountability risks. This approach helps prevent potential damage to organizational reputation when environmental outcomes prove uncertain or fail to meet expectations. This strategic deployment demonstrates corporate responsibility by acknowledging potential environmental impacts and sustainability goals, satisfying stakeholder demands for corporate accountability, while simultaneously protecting against reputational damage when outcomes prove challenging. The second strategy focuses on stakeholder relationship preservation. Through measured epistemic commitment, companies can maintain ongoing dialogue with diverse stakeholder groups, including investors, regulators, and environmental advocates. These groups often hold conflicting expectations regarding corporate environmental responsibility, making careful linguistic positioning essential for maintaining productive relationships. This approach reflects industry-specific learning about stakeholder communication, where qualified environmental commitments prove more sustainable for long-term reputation management than absolutist claims that risk credibility damage when challenged by complex realities (Figure 1).

TABLE 2 Frequency distribution of epistemic stance markers in CSR reports.

Category	Raw frequency	Normalized frequency (per 10,000 words)	Percentage	Most common examples
Modal Expression Markers	210	13.8	58.8%	May (89), could (54), might (31), would (23)
External Source Markers	72	4.7	20.2%	Said (61), according to (11)
Mental State Verbs	70	4.6	19.6%	Believe (45), know (15), think (10)
Inferential Markers	5	0.3	1.4%	Clearly (5)
TOTAL	357	23.5	100%	

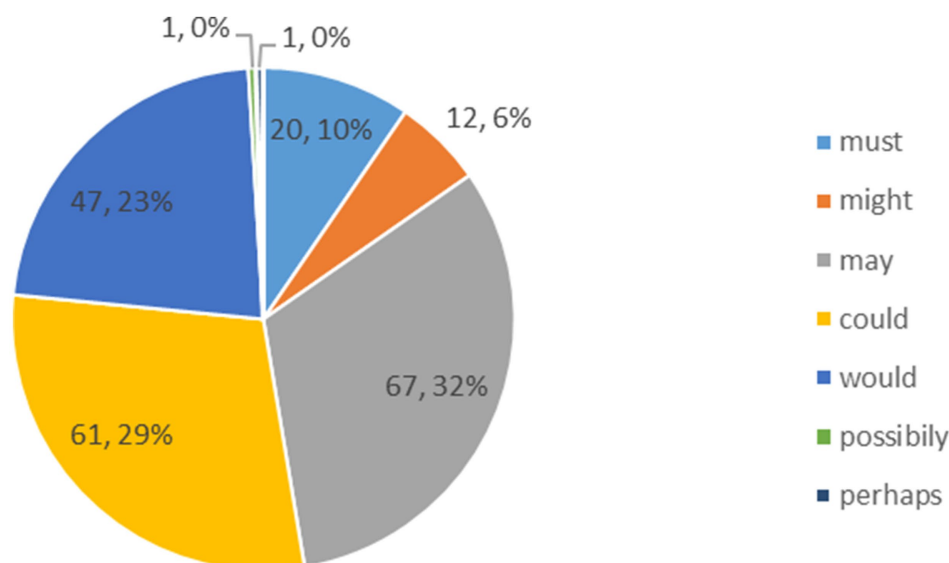Corpus size = 152,084 words from 10 CSR reports (2014–2018).

FIGURE 1
Frequency of epistemic modality markers.

Extract 1: In some instances, oil and natural gas operations [may] correlate with seismic activity due to unique geological conditions. In 2016, we developed a risk-based Global Induced Seismicity Guideline for the salt water (produced water) injection wells we own and operate. The guideline helps characterize seismicity risks by assessing historical seismicity, identifying geological faults of concern, assessing actual or proposed injection operating conditions, and considering proximity to people and population centers. It also provides possible monitoring, management, and response planning options if the assessed risk is elevated. We are working with our peers and academic researchers to better understand and document if, where and how fluid injection and hydraulic fracturing [may] contribute to the phenomenon of increased rates of seismicity over background trends. (America ConocoPhilips 2016)

In Extract 1, the paragraph begins with a clause that introduces the potential negative impact of the company's operations. The modal verb may is used to describe a possible relationship between the company's business activities and seismic activity. This hedging device allows the writer to present the correlation while withholding full epistemic commitment to a direct causal link. The adverbial clause "due to unique geological conditions" further mitigates responsibility by foregrounding external geological factors. Although the company's activities are mentioned in connection with seismic activity, the construction simultaneously implies that other causes may also contribute to the phenomenon.

The first deployment of may thus performs multiple rhetorical functions: it lowers epistemic commitment to causation and shifts part of the explanatory burden from corporate action to geological conditions. The second may occurs in a research context ("to better understand and document if, where and how. [may] contribute"), where it signals genuine scientific uncertainty rather than primarily strategic hedging. This dual deployment shows how the same epistemic marker can serve different functions within a single text: defensive reputation management in the first instance and

acknowledgment of ongoing scientific inquiry in the second. The intervening sentences, which highlight the development of a risk-based guideline and collaboration with peers and academic researchers, construct a frame of corporate proactivity and technical responsibility within which hedged claims appear as part of responsible risk management rather than evasion.

Overall, the use of may in Extract 1 illustrates how companies seek to manage environmental accountability while maintaining stakeholder trust. This linguistic strategy enables the company to recognize potential environmental impacts without explicitly accepting full causal responsibility. Such positioning is central to preserving organizational reputation in regulatory and stakeholder contexts. Lee et al. (2016) demonstrate that the "linkage between increased awareness and purchase intention" requires companies to balance transparency with protective positioning strategies, and the use of epistemic modality in Extract 1 aligns with this communicative requirement.

Extract 2: ExxonMobil funds a broad portfolio of advanced biofuels research programs. For example, ExxonMobil recently signed a joint research agreement with Clariant to evaluate the use of cellulosic sugars from sources such as agricultural waste and residues to produce biofuel. This partnership expands on an existing joint research agreement between ExxonMobil and Renewable Energy Group, Inc. (REG), in which the companies successfully validated the ability of REG technology to convert sugars from cellulosic biomass into biodiesel through a single-step process. The agreement with Clariant enables ExxonMobil and REG to advance a key stage in the overall cellulosic conversion process, which [could] potentially lead to the development of scalable biodiesel technology. (ExxonMobil 2018)

In Example 2, the text discusses whether research outcomes would help develop sustainable energy. The company first introduces the fact that it has invested significantly in biofuel research and achieved some promising results. However, the company acknowledges uncertainty about the ultimate outcome. The writers limit the epistemic support

for their statement by using the modal verb *[could]*, which indicates a low modality according to Halliday et al. (2004, p. 621). This clearly shows the writer's uncertainty toward the assertion, avoiding an overt imposition on readers and acknowledging potential doubt. Additionally, we note that the hedging function is enhanced through the combination of modal verb *[could]* with modal adjective *[potentially]*. As Simpson (2003) states, such a 'double modal configuration of auxiliary and adverb' serves to 'consolidate[s] the level of commitment to the truth of the proposition expressed' (2003, p. 140).

> *Extract 3: In addition, we reached agreements with carbon capture technology companies such as Mosaic Materials and Global Thermostat to evaluate ways to scale these promising technologies. And we're continuing research into how fuel cells [might] play a role in significantly reducing the costs of carbon capture. (ExxonMobil 2018)*

In Example 3, the text evaluates the likely scenario of the company's collaboration with carbon capture technology companies. The company expresses reservations about the mentioned outcomes. By adopting *[might]*, the writer expresses partial support toward the scenario without fully committing to the truth of the statement. The function of *[might]* helps the writer avoid stating conclusions too confidently and weakens the force of the statement. This protects the writer from negative consequences of poor judgment from readers (Hyland, 1998, p. 167).

> *Extract 4: We place a high value on relationships with local communities, landowners, contractors and local government and strive to be a great neighbor and a responsible corporate citizen. During the construction phase of APLNG, we maximized local workforce participation so that local residents [would] benefit from the project. (ConocoPhilips 2015)*

In Example 4, *[would]* modifies the likelihood of positive results from the previously mentioned actions. It expresses a prediction about the future based on evidence and reasoning. The company had made significant efforts in collaboration with the local community and hired many local residents. However, since the company cannot be completely certain about these claims (as they represent their perspective, while the local community or employees might hold different views), *[would]* mitigates their assertion, conveying a humble stance and acknowledging limitations in fully understanding the entire scenario.

Legitimacy and validation strategies (external source markers)

Indirect reportative evidential concerns evidence obtained through another person or source of information (Marín-Arrese, 2015a, 2015b; Chojnicka, 2012). This category can be classified into two types: The first source type comes from either the writer or other people (Bednarek, 2006, p. 639). The second type concerns general knowledge or proof related to assertions based on some sort of 'hard proof' (p.639) or perception that can be paraphrased as 'not needing evidence' (p.641). Our analysis revealed 72 cases of indirect reportative

evidentials, which can be further classified into two subtypes: the use of 'said' (accounting for 84.7% of this category) and 'according to' (accounting for the remaining 15.3%).

The substantial presence of external source markers (20.2%) reflects strategic understanding that corporate sustainability claims require external validation to achieve credibility with skeptical stakeholders. Rather than relying solely on corporate assertions, companies systematically invoke authoritative sources, ranging from UN organizations to industry surveys. This practice transfers epistemic authority from internal corporate sources to external validators. The prominence of reportative evidentials as the second most frequent category reflects what CSR communication scholars identify as the "legitimacy imperative" (Golob et al., 2013). Energy companies routinely invoke external authorities to establish organizational credibility and counter skepticism about their environmental claims. This approach addresses a fundamental challenge in CSR communication. When corporations communicate about their own social and environmental performance, an inherent credibility gap emerges that external validation helps bridge.

This strategy serves multiple organizational functions. Companies systematically cite external sources such as UN organizations, academic institutions, and third-party surveys to transfer epistemic authority from internal corporate sources to recognized validators, thereby enhancing organizational reputation through association with credible institutions. This pattern of authority transfer particularly serves reputation functions related to regulatory compliance and stakeholder trust-building, as external validation carries greater weight than corporate self-assessment in high-scrutiny environments. Additionally, the strategic use of reported speech from beneficiaries and community members creates authentic testimonial evidence that addresses inherent credibility challenges while building organizational legitimacy. Rather than relying on self-promotional corporate assertions that might appear self-serving, companies allow credible witnesses to communicate positive social impact, creating more persuasive evidence of corporate social value. The following two extracts are typical examples that show the usage of indirect reportative evidential.

> *Extract 5: 'I am beyond grateful to Valero for investing so much support in making sure students like myself know the educational options that are out there,' Fuentes [said].....*
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> *The program provides two full-time 'college-bound advisors' at seven district high schools to work with the students. Fuentes attended the Spring Break College Tour of colleges and universities in the Midwest, which, she [said], 'made college comfortable -- not as scary. It made college real for me.'*
>
> *But support hasn't ended there. She still receives calls and visits from advisors -- and even care packages from Valero employees. 'Knowing that there is continuous support from Valero for other students like me means so much,' she [said]. (Valero 2018)*

In Extract 5, the reportative verb said appears three times. The writer aims to underscore the company's contribution to the local community while avoiding direct self-promotional statements. By using reported speech, the company sidesteps taking explicit responsibility for evaluative claims that might otherwise appear

self-congratulatory, since it would be the corporate voice endorsing its own social performance (Bednarek, 2006). Instead, the benefits of the education program are presented through the perspective of a student who has taken part in it. Fuentes' quotations thus function as testimonial evidence that the program positively affects students in need.

The triple deployment of said creates a layered evidential structure that progressively builds credibility. The first instance introduces an emotional register ("I am beyond grateful") that would be problematic if voiced directly by the corporation. The second includes conversational language ("not as scary") that contrasts with the more formal corporate register, thereby generating an effect of authenticity. The third reiterates the theme of ongoing support. Attribution to a named individual, rather than an anonymous or generic source, further enhances perceived authenticity, as named sources typically carry greater testimonial weight than impersonal attributions. This pattern illustrates a genre-specific adaptation of reportative evidentials: whereas in journalistic discourse said often introduces newsworthy claims from authorities, CSR reports deploy said to foreground beneficiary voices that validate corporate social impact.

Extract 5 therefore exemplifies reputation management achieved through stakeholder voice amplification. Rather than making direct claims about community impact, the company allows program beneficiaries to act as credible witnesses to corporate social value. This strategy addresses credibility challenges that corporations face when communicating about their own social initiatives and, at the same time, contributes to organizational reputation-building through seemingly authentic testimonial evidence.

Extract 6: Additionally, our next-generation plastic packaging reduces total product weight and allows more products per shipment, fewer trucks on the road, less gasoline and energy used, fewer greenhouse gas emissions and ultimately less material to be reused, recovered or recycled. ExxonMobil plastic products also contribute to safety within the food industry. Plastic packaging is lightweight, durable and flexible, which makes it ideal for preserving food. [According to the Food and Agriculture Organization of] the United Nations, one-third of the food produced in the world goes to waste each year. Plastic packaging can help reduce spoilage, increase access to food and improve food safety for consumers around the world. (America ExxonMobil 2016)

Extract 7: Using energy more efficiently is a powerful tool to reduce emissions and costs. ExxonMobil works to improve efficiency across all its operations. The electricity used in ExxonMobil's operations in 2018 represents more than 10 percent of our net equity greenhouse gas emissions. [According to the Solomon Refining Industry Survey,] ExxonMobil is among the world's most energy-efficient refining companies. (ExxonMobil 2018)

In Examples 6 and 7, the indirect reportative evidential 'according to' refers the validity of assertions to external voices. In Example 6, the United Nations' Food and Agriculture Organization is cited to provide background information that justifies the company's focus on plastic packaging for food preservation. In Example 7, the Solomon Refining Industry Survey, a third-party organization, is referenced to validate ExxonMobil's energy efficiency claims. In both cases, the evidentials indicate that the positive assertions about the company come not from

internal sources but from recognized external authorities, enhancing credibility through third-party validation. Extracts 6 and 7 reveal systematic reliance on institutional validation to support corporate environmental claims. This pattern reflects strategic understanding that organizational reputation in sustainability contexts requires third-party verification. Corporate self-assessment alone proves insufficient for building credibility. The selection of highly credible sources, such as UN organizations and industry surveys, demonstrates sophisticated reputation management. This approach directly addresses stakeholder skepticism about corporate environmental communications.

Leadership positioning strategies (mental state verbs)

Cognitive verbs constitute an important category of epistemic stance markers that reveal the speaker/writer's mental processes and degree of commitment to propositions. As Marín-Arrese (2015a) explains, these verbs of mental state or cognitive attitude 'indicate speakers' reflective attitudes or beliefs regarding representations.' In CSR discourse, cognitive verbs serve a dual function: they simultaneously signal the degree of corporate commitment to claims while creating an impression of transparency through shared cognitive processes with readers.

Mental state verbs (19.6%) serve distinct reputation functions related to leadership positioning and stakeholder relationship building.

The strategic deployment of cognitive verbs serves organizational communication objectives that extend far beyond simple opinion expression. These markers function as sophisticated identity construction tools that help companies position themselves as thoughtful, committed organizations while maintaining the interpretive flexibility essential for reputation management. The predominance of 'believe' over stronger commitment markers like 'know' suggests that companies deliberately calibrate their epistemic stance to project responsible leadership, demonstrating sufficient confidence to guide stakeholder thinking while maintaining enough humility to acknowledge the complexity of sustainability challenges. This careful calibration enhances organizational reputation by creating impressions of thoughtful, principled leadership without generating unrealistic accountability expectations. Furthermore, cognitive verbs invite stakeholders to participate in corporate thinking processes, creating impressions of transparency and collaborative decision-making that build long-term trust. Companies use this cognitive transparency strategically, revealing enough corporate reasoning to build stakeholder confidence while carefully avoiding commitments that might prove problematic in uncertain environmental contexts.

Our analysis identified three primary cognitive verbs in the corpus: 'believe' (most frequent), 'know' (second most frequent), and 'think' (least frequent). Previous research by Marín-Arrese (2011) and Fetzer (2008) has shown that these cognitive verbs indicate different degrees of validity, with 'know' expressing stronger epistemic commitment than 'believe', which in turn expresses stronger commitment than 'think'. This pattern of usage in CSR reports suggests companies strategically select cognitive verbs to balance assertiveness with appropriate epistemic caution.

Extract 8: We [believe] businesses have a constructive role in advancing respect for human rights and [believe] that all people

should live their lives free from social, political, or economic discrimination or abuse. We intend to conduct business consistent with the human rights philosophy expressed in the Universal Declaration of Human Rights and the International Labor Organization Declaration on Fundamental Principles and Rights at Work. Business practices, processes and tools guide how our operations implement our Human Rights Position and management systems for human rights due diligence, security and human rights. (America ConocoPhilips 2015)

Extract 9: On the policy front, we support the Paris Agreement as a global framework to coordinate government policies. We also support market-based approaches to reduce greenhouse gas emissions, including further regulation of methane emissions and a carbon tax. We [believe] market-based policies that place a uniform, predictable cost on greenhouse gas emissions more effectively drive consumer behavior and support technology innovation. (ExxonMobil 2018)

The cognitive verb with the highest frequency indicating epistemic commitment in our corpus is *[believe]*. It indicates the opinion or conviction that something is true (Dictionary of Contemporary English, 2002) or factual (Collins Cobuild, 1990). When such a cognitive verb collocates with first-person singular and first-person plural self-reference, it signifies boosted epistemic commitment (Fetzer, 2008). In Example 8, the writer invites readers to adopt their perspective and share their strong belief that they are actively promoting human rights. The second use of *believe* in this extract is supported by epistemic necessity ('should') with collective agency ('all people'), enhancing the emotive commitment. This high level of certainty helps highlight the writer's self-portrayal as understanding. They present themselves as considering employees' concerns, thereby demonstrating empathy. The repeated use of 'believe' in Extract 8 exemplifies how companies balance conviction with appropriate epistemic caution. This linguistic choice allows the company to demonstrate leadership on human rights issues while maintaining the interpretive flexibility necessary for managing diverse stakeholder expectations. The strategy supports organizational reputation by projecting principled commitment without creating unrealistic accountability expectations.

In Example 9, through the use of first-person plural 'we' with the cognitive verb 'believe', the writers express epistemic commitment toward the proposition about market-based policies. This signals the upcoming argument with strong force and entails emotive commitment. The example highlights the company's strong commitment to environmental principles (e.g., Paris Agreement, government policies), projecting a positive corporate image.

Extract 10: Our approach to protecting our people goes well beyond safety. [We know that] active and engaged employees must also be mentally and physically healthy in order to do their best work in a safe and meaningful way. Our Health and Wellness program provides all employees across our company with programs and information to promote healthier lifestyles. In addition to wellness challenges and nutrition and exercise tips, the program also includes a cash stipend for completing a health assessment and an annual preventive physical, and other incentives. Essential to the program

are our Wellness Champions, who are located across our facilities and offices to promote wellness among employees. (Marathon 2018)

As Fetzer (2008) notes, 'we know' boosts epistemic commitment. In Example 10, the cognitive verb 'know' with first-person plural self-reference 'we' indicates shared knowledge. When discussing employee regulations, the cognitive verb *know* attempts to invite readers to adopt the same perspective. The 'we know' frame (Langacker and Langacker, 2008: 438) constructs epistemic validity. The stronger epistemic commitment indicated by 'we know' in Extract 10 reveals how companies selectively deploy high-certainty cognitive markers in areas where they possess clear authority and expertise (employee wellness). This strategic variation in epistemic commitment levels demonstrates sophisticated reputation management that matches linguistic confidence to organizational competence domains.

Epistemic restraint strategies (inferential markers)

In our corpus, the least used epistemic stance strategy is indirect inferential evidential, and only 5 cases of indirect inferential evidence are found, all realized by the adverb [clearly]. Example 11 is a typical example of this.

Extract 11: ExxonMobil [clearly] communicates its expectations on human rights to its suppliers on an annual basis. These expectations include references to key international human rights frameworks, including the United Nations Guiding Principles on Business and Human Rights and the International Labour Organization Declaration on Fundamental Principles and Rights at Work. (ExxonMobil 2018)

In Extract 11, the adverb 'clearly' indicates that the company's actions regarding human rights communication follow a thorough logical process, avoiding imprecision and vagueness. This evidential marker suggests that 'the commitment to the validity of the information is shared or at least potentially shared by the speaker/ listener and other participants (non-subjective or intersubjective responsibility)' (Sanders and Spooren, 1996, p. 246). As a conceptual-based marker, 'clearly' functions to convey reassurance to readers regarding the company's transparency and thoroughness in human rights matters. The limited presence of inferential evidentials in our corpus suggests that CSR reports generally prefer other epistemic stance strategies, particularly epistemic modality and reportative evidentials in constructing corporate identity. This may reflect the genre's preference for more explicit markers of corporate voice (cognitive verbs) and external validation (reportative evidentials) over inference-based claims.

This strategic restraint demonstrates sophisticated understanding of stakeholder communication dynamics. Companies have learned that in environmentally sensitive industries, inference-based claims risk appearing self-serving or inadequately supported, whereas explicit hedging through modal verbs or third-party validation through external sources provide more credible foundations for corporate environmental communications. The distribution thus reflects accumulated strategic wisdom about effective reputation management in high-scrutiny contexts, where companies must balance multiple,

sometimes conflicting, stakeholder demands while maintaining organizational credibility and operational flexibility.

Conclusion

This study acknowledges several limitations that constrain the scope of its conclusions and indicate directions for future research. First, the sample of 10 CSR reports from US energy companies (2014–2018) limits the cross-cultural and cross-sectoral generalizability of the findings. This geographic focus was a deliberate methodological choice. US energy companies were selected because (a) the United States has well-established CSR reporting norms, providing a relatively consistent institutional context; (b) US energy companies face particularly intense scrutiny regarding environmental claims, making epistemic stance management especially salient; and (c) English-language reports remove translation-related variables. The 2014–2018 timeframe captures a period following the Paris Agreement discussions when energy-sector CSR communication intensified. Nevertheless, CSR communication practices vary across cultural settings (Yu and Bondi, 2017), and epistemic strategies may differ between collectivist and individualist cultures. Future research should therefore examine whether the patterns identified here are replicated in European, Asian, and emerging-market contexts, where stakeholder expectations and institutional pressures may differ substantially.

Second, while this study provides detailed linguistic analysis of epistemic stance markers, it does not empirically investigate stakeholder reception or impact. Important questions remain about how different epistemic strategies shape stakeholder perceptions, investor confidence, and public trust. Future work could combine corpus-based and discourse-analytic methods with approaches from business communication, public relations, and stakeholder research to assess the practical effectiveness of different epistemic configurations in CSR texts.

The findings also point to several directions for further inquiry into corporate communication strategies. Cross-sectoral comparative studies could reveal industry-specific patterns of epistemic positioning. Longitudinal analyses might trace how companies adjust their epistemic strategies in response to changing regulatory frameworks, activist pressure, or reputational crises. Most importantly, empirical studies that measure the effects of particular epistemic stance markers on stakeholder attitudes and behaviours would provide stronger validation for claims about their strategic role in CSR discourse.

Despite these limitations, the present study offers a systematic account of how epistemic stance markers operate within CSR communication in the energy sector. It provides theoretical insights for scholars of corporate communication and discourse analysis, and practical guidance for CSR practitioners who seek to manage stakeholder accountability and corporate reputation in environmentally sensitive industries.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

SL: Writing – original draft, Writing – review & editing.

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