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Strategic Marketing Narratives in the Global Decarbonisation Era: A Content Analysis of Corporate Communication Practices

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ABSTRACT

This study comparatively examines the strategic marketing narratives used by companies in different sectors and regions during the global decarbonisation transition. It analyses sustainability reports, corporate web content, and press releases published between 2020 and 2024 by eight companies in the automotive and IT/technology sectors in Europe and the United States. Using qualitative content analysis and a structured comparative design, the study compares how firms position themselves in the transition to a low-carbon economy at regional and sectoral levels. The findings indicate that all companies frame climate action through innovation and leadership, but European firms emphasise regulatory compliance, measurability, and long-term commitments, whereas US firms more often foreground rapid transformation, entrepreneurial leadership, and social values. Automotive companies rely more heavily on technical and process-oriented discourse, while IT/technology companies more frequently use ethically framed and stakeholder-oriented narratives. Overall, the study offers an initial comparative assessment showing that sustainability discourse functions not only as a communication tool but also as a strategic mechanism through which firms seek legitimacy, stakeholder trust, and influence over the pace and credibility of decarbonisation pathways.

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1. INTRODUCTION

Today, the global climate crisis is often treated primarily as an environmental issue. Yet because it also reshapes firms' strategic choices, disclosure practices, and market positioning, it has become equally important for the global economy. International regulations such as the Paris Agreement and the EU Green Deal have elevated corporate environmental performance to a strategic priority, in line with growing investor and consumer expectations (Wright and Nyberg 2015). Firms therefore seek to position themselves not only as producers adapting to climate risk but also as visible actors in the transition to a low-carbon economy through their production systems, reporting routines, and marketing narratives.

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Research to date has largely examined sustainability reporting and corporate communication within single sectors, regions, or firm groups. As a result, existing studies still struggle to explain why similar decarbonisation pressures generate different corporate narratives across regions and industries. A comparative regional-sectoral perspective is therefore needed to show how institutional context, market logic, and sectoral structure jointly shape corporate climate discourse (Delmas and Burbano 2011; Dessart and Standaert 2023).

This study addresses this gap by comparing the sustainability reports, press releases, and web content published between 2020 and 2024 by a total of eight companies: European-based automotive companies (Volkswagen, BMW), US-based automotive companies (Ford, General Motors), European-based IT/technology companies (SAP, Ericsson), and US-based IT/technology companies (Apple, Microsoft). The primary reason for selecting these companies is that they are global leaders in their respective industries and are pioneering and visible companies in their discourse on climate action.

The main research question is: How do companies position themselves in the transition to a low-carbon economy through strategic marketing discourse, and how does this discourse differ at the regional and sectoral levels?

In seeking to answer this question, the study also embraces the following sub-objectives:

1. To reveal how the discourse themes of European and US-based companies are shaped by regulatory contexts and cultural values.
2. To identify the commonalities and points of divergence in the strategic marketing narratives used in the automotive and IT/technology sectors.
3. To compare how companies align their net-zero targets, innovation emphases, leadership discourses, and social values.

Thus, the research provides a regional-sectoral perspective to the literature and offers practitioners guidance on which discourse components may be more effective in strategic sustainability communication.

This analysis treats corporate narratives not merely as public relations devices but as strategic road maps that may influence the pace and direction of sectoral decarbonisation. Changes in marketing language can shape capital allocation, stakeholder expectations, and technology priorities in the transition to a low-carbon economy; accordingly, such narratives may operate either as catalysts or as constraints in the pursuit of climate targets.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1. NATURAL RESOURCE-BASED VIEW AND THE "WIN-WIN" LOGIC

In strategic management literature, the Natural Resource-Based View (NRBV) positions the firm's environmental capabilities (pollution prevention, product life cycle management, sustainable development) as strategic resources that provide sustainable competitive advantage (Hart 1995). This framework positions environmental performance as a value-creating resource through innovation and efficiency. Porter and van der Linde (1995) posit that the implementation of well-designed environmental regulations will precipitate innovation and enhance environmental and economic performance. This constitutes a fundamental theoretical basis of the win-win narrative frequently observed in sustainability communication (Hart 1995; Porter and van der Linde 1995).

Evaluations of NRBV 15 years later show that businesses tested their profitability links, particularly through pollution prevention and efficiency gains, but that research gaps still exist in terms of comprehensive transformation (e.g., sustainable development competency) (Hart and Dowell 2011). These findings help explain why the themes of operational efficiency and technological transformation are dominant in corporate discourse.

2.2. SHARED VALUE AND PURPOSE-DRIVEN NARRATIVES

The Creating Shared Value (CSV) approach enables businesses to increase their competitive strength while generating solutions to social/environmental problems, thus transforming sustainability into a central purpose and strategy (Porter and Kramer 2011). In marketing narratives, CSV strengthens the foundation of the climate action equals innovation and growth framework (Porter and Kramer 2011; Elkington 2018).

2.3. LEGITIMACY AND GREENWASHING

Corporate legitimacy can be understood as the extent to which an organisation's activities are perceived as consistent with prevailing social norms and values. Suchman (1995) defines legitimacy in three dimensions: pragmatic legitimacy (appealing to stakeholders' interests), moral legitimacy (doing what is socially right), and cognitive legitimacy (the organisation's activities being perceived as normal and appropriate). In sustainability communication, firms are expected to demonstrate alignment with social and environmental expectations alongside financial performance. In the post-Paris Agreement era, stakeholders increasingly demand concrete performance in areas such as carbon reduction, supply-chain responsibility, and human rights (Wright and Nyberg 2015).

One of the most important concepts that emerged as a result of the search for legitimacy is greenwashing. The term greenwashing was first used in the 1980s by environmental groups to criticize companies' misleading claims about being environmentally friendly (Delmas and Burbano 2011). Greenwashing refers to the inconsistency between companies' environmental performance and their communications. In short, the claims made at the communication level do not match the environmental policies actually implemented. Delmas and Burbano (2011) examine greenwashing at three levels. Corporate drivers (regulatory pressures, consumer expectations), organisational factors (resource constraints, governance deficiencies), and individual factors (managerial values, ethical perceptions). This model is useful for understanding why companies produce ambitious sustainability rhetoric but cannot always back it up with concrete actions.

In the European Union in particular, the regulatory framework has been tightened in recent years to prevent greenwashing. With the Corporate Sustainability Reporting Directive (CSRD), tens of thousands of companies will be required to report their environmental and social performance in a standardized format starting in 2024 (European Union 2022; European Commission 2023). In addition, Directive (EU) 2024/825 limits practices such as general environmental claims and claims based solely on carbon offsetting, making verifiability mandatory in marketing statements (European Commission 2024). This contributes to a greater emphasis on measurability, standard compliance, and long-term commitment rhetoric in the sustainability discourse of EU-based companies.

In the US, climate disclosure regulations are more fragmented. The SEC's March 6, 2024 climate disclosure rule required certain companies to disclose climate risks in their financial reports, but its implementation has been temporarily suspended due to various legal proceedings. This situation has paved the way for US-based companies to emphasise messages such as entrepreneurial leadership, market-transforming vision, and rapid action on our own initiative in their sustainability communications (Task Force on Climate-related Financial Disclosures (TCFD) 2021; U.S. Securities and Exchange Commission (SEC) 2024).

From a sectoral perspective, the risk of greenwashing appears higher in emission-intensive sectors. In the automotive industry, for example, following the diesel scandals, companies such as Volkswagen have attempted to reestablish their legitimacy by using terms such as transparency, accountability, and Paris Agreement compliance more frequently in their sustainability discourse (Volkswagen AG 2023). BMW has also tried to distance itself from this risk by highlighting measurable targets such as climate neutrality, circular economy, and CO₂ reduction in its post-2020 reports. In contrast, US automotive giants such as Ford and General Motors legitimize environmental goals within the framework of economic growth and national competitiveness by presenting their electric vehicle investments as American innovation leadership and job creation (Ford Motor Company 2023; General Motors 2023).

In the IT/technology sector, given the relatively low level of direct emissions, the risk of greenwashing is more prominent in terms of supply chain and product life cycle impacts. Legitimacy is reinforced by EU-based companies, such as SAP and Ericsson, through emphasis on compliance with EU standards and transparent reporting (SAP 2023; Ericsson 2023a). In contrast, US-based technology companies, including Apple and Microsoft, emphasise leadership and ecosystem impact through statements such as carbon neutrality by 2030 and we are transforming our suppliers (Apple 2020a; Microsoft 2021).

Greenwashing should therefore not be understood as a single deceptive practice, but as a context-dependent risk structure in which firms display different vulnerability profiles depending on regulatory pressure, sector dynamics, and stakeholder expectations. Accordingly, the comparative analysis in this study does not simply list ambitious claims; it situates those claims within the institutional and communicative environments in which they are made.

2.4. TRIPLE BOTTOM LINE AND THE MULTIDIMENSIONALITY OF VALUE

The Triple Bottom Line (TBL) approach is unquestionably one of the most well-known frameworks for corporate sustainability. The concept was first introduced by John Elkington in 1997. Elkington (1997) contends that businesses must evaluate their environmental and social performance in addition to their economic profitability. This approach is characterised by the integration of the three dimensions (people, planet, profit) as complementary performance criteria, rather than as independent entities. TBL is the evident leader in facilitating businesses' incorporation of carbon-free growth and the circular economy into their communication strategies.

In a 2018 article in the *Harvard Business Review*, Elkington stated that TBL would require a recall in 20 years because most businesses merely report on the triple bottom line criteria without fully integrating them into their strategic decisions (Elkington 2018). This highlights the need for promises such as inclusivity, human rights, and zero waste, which are frequently seen in companies' reports today but lack full implementation, to be supported by performance indicators.

TBL has been reinforced by corporate reporting standards, particularly in the European Union. The CSRD and the EU's new green claims directives are key to TBL's transformation into a standardised, multidimensional value creation logic by mandating the reporting of financial, environmental, and social metrics. EU-based IT companies such as SAP and Ericsson use all three dimensions of TBL together in their sustainability reports, presenting themes such as reducing their environmental footprint, ethical supply chains, and employee diversity. In the automotive sector, Volkswagen and BMW emphasise social dimensions such as workforce transformation, new skills training, and regional employment in their reports, in addition to their commitments to electrification and carbon neutrality (Volkswagen AG 2023; BMW Group 2023).

In the US context, the TBL concept is more commonly referenced in company reports within the ESG (Environmental, Social, Governance) discourse. Automotive giants such as Ford and General Motors present the social and environmental dimensions of TBL within the scope of national competition and growth. They link their electric vehicle investments and carbon neutrality goals to job creation and American innovation leadership narratives. Technology companies such as Apple and Microsoft also illustrate a version of TBL that has evolved into ESG terminology by jointly reporting on product life cycle carbon neutrality (environmental), supplier training and diversity (social), and transparency and accountability (governance) (Apple 2020a; Microsoft 2021).

The function of TBL in corporate narratives is not merely to report on three dimensions; it also provides a framework for establishing value-based relationships with stakeholders. Within this framework, companies narrate environmental goals such as carbon reduction not only as regulatory compliance but also by linking them to social values such as future generations or a more equitable economy. Thus, TBL reinforces the principles of purposefulness and accountability in corporate sustainability communication (Elkington 2018; Porter and Kramer 2011).

The discourses of the eight companies examined in this study also reflect the three dimensions of TBL in different combinations. EU-based automotive companies place significant emphasis on environmental dimensions such as carbon neutrality and electrification, while also foregrounding social concerns such as employment and intergenerational responsibility. By contrast, US-based IT companies combine environmental issues, including supply-chain emissions, with ethical and social concerns such as inclusivity and human rights, while simultaneously framing innovation and leadership as integral elements of sustainability strategy. These differences show that TBL is not a static framework but a storytelling tool that is reconfigured according to regulatory, cultural, and sectoral context.

2.5. STORYTELLING AND STAKEHOLDER ENGAGEMENT

In sustainability communication, storytelling functions as a structure that enables emotional connection with stakeholders, makes complex data easier to understand, and encourages behavioural change. Mossberg and Johansen (2006) show that storytelling in corporate communication is a powerful method for establishing organisational identity, building stakeholder trust, and conveying strategic messages. In this sense, sustainability discourse often moves beyond simple reporting and is instead communicated through broader narrative structures and recognisable story characters.

Dessart and Standaert (2023) state that strategic storytelling can accelerate change at the individual, organisational, and societal levels in the age of sustainability. Their research shows that storytelling has three

key functions: sparking stakeholder interest and curiosity, simplifying complex technical information, and encouraging behavioural change by establishing an emotional connection. These findings emphasise the importance of going beyond mere metrics and targets in sustainability communication and offering stakeholders a meaningful journey.

A content analysis conducted by Favre and Latrach (2024) in the automotive sector identified four dominant themes in companies' sustainability narratives: innovation, partnerships, accountability, and calls to action. EU-based automotive companies such as Volkswagen and BMW present their electrification and carbon neutrality goals not merely as a technical transformation, but as a narrative framed within ethical frameworks such as responsibility to future generations and the transition to sustainable mobility. US-based Ford and General Motors, on the other hand, link their electric vehicle investments to national values such as American innovation and job creation, presenting stakeholders with a more heroic and leadership-focused narrative.

Storytelling in the IT and technology sector is taking on a different character. EU-based IT companies such as SAP and Ericsson are building narratives around compliance with EU standards and ethical values by bringing together themes such as supply chain codes of ethics, inclusivity, and green innovation in their sustainability reports. US-based technology companies such as Apple and Microsoft, on the other hand, present their 2030 carbon neutrality, robotic recycling systems (e.g., Daisy, Dave), and supplier transformation strategies as leaders transforming the ecosystem, creating a ripple effect narrative that links climate action with innovation and social justice (Apple 2020b; Microsoft 2021).

The reason storytelling emerges in different forms in these two sectors and two regions is related to the regulatory context and cultural expectations, as well as the nature of the products and services. In high-emission, physically production-based sectors such as automotive, storytelling is built more around themes of technological transformation and responsibility to future generations. In the IT/technology sector, where direct emissions are relatively low, storytelling is shaped around themes such as the supply chain, inclusivity, ethical values, and ecosystem leadership. This difference is reinforced by stakeholder expectations and regulatory pressures: In the EU, the CSRD and green claims directives push companies towards stories based on measurability and transparency, while in the US, as the SEC's climate rule is still in the judicial process, companies lean more towards stories based on voluntary leadership and innovation.

Ultimately, storytelling is one of the strengths of sustainability marketing. Companies build stronger relationships with stakeholders by turning technical data into stories; however, the credibility of these stories depends on whether they are supported by measurable actions. Therefore, the storytelling strategies of each company examined in this study are coded and compared not only in terms of the words and symbols they use, but also in terms of the level of support they receive from data and performance indicators.

2.6. REGULATORY CONTEXT: EU-US COMPARISON

The Task Force on Climate-related Financial Disclosures (TCFD) provides a core framework for climate-related financial reporting by focusing on governance, strategy, risk management, and metrics and targets (TCFD 2021). In the EU, the Corporate Sustainability Reporting Directive has expanded the scope of mandatory and standardised sustainability disclosure, while delegated regulations have clarified implementation details (European Commission 2023). Legislation adopted in 2024 also introduced stricter rules against greenwashing practices, including general environmental claims and statements based solely on carbon offsetting, with the stated aim of helping consumers move toward more sustainable choices (European Commission 2024). In the United States, the SEC issued a climate disclosure rule on 6 March 2024 that required certain companies to disclose climate risks in financial filings, although implementation was later suspended during ongoing legal proceedings (SEC 2024). These diverging regulatory trajectories help explain why EU-based companies more often emphasise standard compliance and long-term accountability, whereas US-based companies more often foreground rapid transformation and entrepreneurial leadership.

2.7. CONCEPTUAL EXPECTATIONS FOR REGIONAL AND SECTORAL DISCOURSE DIFFERENCES

The theoretical and regulatory framework conceptually outlines the following expectations:

In EU-based businesses, the expected discourse structure is relatively consistent: measurability, standard compliance linked to TCFD/CSRD, and long-term commitments. US-based companies are expected to rely more heavily on innovation, market leadership, and entrepreneurial action. The automotive sector is emission-

intensive and technology- and supply-dependent, which makes technical transformation, process control, and governance particularly salient. In the IT/technology sector, by contrast, dominant narratives are more likely to centre on ethics, inclusivity, users, and ecosystems, even though direct emissions are lower and supply-chain impacts remain substantial (Dessart and Standaert 2023; Favre and Latrach 2024).

3. METHOD

3.1. RESEARCH DESIGN

This study was conducted using a qualitative research design to understand the strategic marketing discourses used by companies in their transition to a low-carbon economy. Content analysis is a method frequently used in organisational communication studies (Krippendorff 2018; Hsieh and Shannon 2005) and allows for the systematic identification of themes, categories, and patterns of meaning in texts published during a specific period. Content analysis is a particularly suitable method for examining not only the statements made by companies, but also the manner and context in which these statements are made. This is especially relevant in the case of multidimensional texts that are replete with emotionally charged vocabulary, such as the term 'sustainability' (Neuendorf 2017).

3.2. SAMPLE SELECTION AND RATIONALE

The research sample consists of eight large companies operating in different sectors and regions:

- Automotive / EU: Volkswagen, BMW
- Automotive / US: Ford, General Motors
- IT / EU: SAP, Ericsson
- IT / US: Apple, Microsoft

These cases were selected purposively rather than statistically, because the study aims to compare theoretically informative contrasts across sector and region rather than to produce population-level generalisations. The four region-sector cells were intentionally balanced with two firms in each cell so that cross-case contrasts could be examined systematically. The sample is therefore analytically valuable for structured comparison, but its findings should be interpreted as an initial comparative assessment rather than as a statistically representative account of all firms operating in the global decarbonisation landscape.

3.3. DATA SOURCES AND DATA COLLECTION PROCESS

The present study examined corporate communication materials made available to the public during the period 2020 to 2024, utilising a scanning approach for the purpose of analysis. The following materials are included:

The subject of this study is companies' annual sustainability reports, which may be of the following types: Integrated Report, ESG Report, or Sustainability Report.

The presence of sustainability pages and press releases on corporate websites has been noted.

Marketing materials are employed in the context of campaigns and product promotions (e.g., Apple's 2030 Carbon Neutral campaign materials). Of particular note are those materials which pertain to low-carbon, circular economy, and social inclusion themes.

The data was retrieved from the companies' official websites and corporate reporting portals and subsequently archived in PDF or HTML format. In this process, the original English content was utilised to preserve text integrity and prevent translation errors (Bowen 2009). The core corporate source base comprised Volkswagen AG (2023), BMW Group (2023), Ford Motor Company (2023), General Motors (2023), SAP (2023), Ericsson (2023a, 2023b), Apple (2020a, 2020b, 2020c), and Microsoft (2021, 2022).

The 2020–2024 period was selected because it coincided with the consolidation of climate-related disclosure frameworks and heightened reporting pressures in both the EU and the US, which increased the strategic visibility of corporate decarbonisation discourse (TCFD 2021; European Commission 2023; SEC 2024). Although the study is not framed as a full longitudinal discourse model, the corpus was read comparatively across the 2020–2024 period in order to identify shifts in dominant narrative emphases in

response to changing regulatory and macroeconomic pressures.

3.4. CODING SCHEME AND CONTENT ANALYSIS PROCEDURE

In this study, the content analysis process was conducted in three stages and was informed by grounded coding logic used in qualitative category development (Strauss and Corbin 1998):

- Open coding: All texts were read freely in the first round, and potential themes and key phrases related to sustainability discourse were recorded.
- Axial coding: Codes were grouped within the framework of main categories defined in the literature (e.g., innovation, leadership, compliance with standards, social value, climate neutrality, inclusivity, supply-chain ethics, and ecosystem transformation).
- Selective coding: In the final stage, the recurring strategic discourses identified for each company were consolidated into a core comparative theme structure and then compared across regional and sectoral contexts.

These three stages were conducted in accordance with the qualitative content analysis standards recommended in the literature (Krippendorff 2018; Neuendorf 2017). The main company tables present one representative core theme and one illustrative statement for each company, while the broader discourse structure is synthesised through comparative tables, heat maps, and the detailed codebook.

3.5. VALIDITY AND RELIABILITY MEASURES

To reduce the influence of researcher subjectivity in qualitative analysis, multiple validity and reliability procedures were implemented. During the coding process, category and theme frameworks used in similar studies were employed (Delmas and Burbano 2011; Dessart and Standaert 2023), at least two different document types were analysed for each company, and a second coder independently coded a randomly selected 20% subset of the corpus using the same codebook and decision rules. Statements within the same category were then cross-checked across companies, and each major theme was matched with concepts in the literature to strengthen theoretical validity (Bowen 2009).

Structural validity was strengthened by anchoring the analysis primarily in legitimacy theory (Suchman 1995), which provides the most direct lens for interpreting how firms seek social acceptance for decarbonisation claims. NRBV (Hart 1995; Hart and Dowell 2011), CSV/TBL (Porter and Kramer 2011; Elkington 1997; Elkington 2018), greenwashing concerns (Delmas and Burbano 2011), storytelling (Dessart and Standaert 2023; Mossberg and Johansen 2006), and regulatory frameworks (TCFD 2021; European Commission 2023; European Commission 2024; SEC 2024) were used in supplementary supporting roles rather than as competing master frameworks. For each overarching theme, the operational definition and indicators sought in the text are outlined in the codebook.

Data and source triangulation: At least two different document types were used for each company (flagship annual sustainability/ESG report + corporate sustainability webpage or press release/campaign text). Multiple-source triangulation was performed based on a core set of eight companies in the study. Direct quotations were selected only from the companies' official documents, and Tables 1-2 include the year and source information for each quotation.

Code book and audit trail: The coding process was documented internally through an iterative log. Repeated/identical versions were eliminated; only the most recent and comprehensive version was retained in the corpus. Following the principle of disconfirming evidence, statements that contradicted the theme were additionally flagged, and the definitions of the themes were narrowed accordingly.

The study ensured analytical rigor by prioritizing procedural transparency and inter-rater consistency throughout the research process. Instead of relying on a single perspective, a second-coder procedure was applied to a randomly selected 20% subset of the data. This second researcher independently coded the material using the same established rules and codebook. Any discrepancies between the two sets of results were resolved through collaborative discussion before the final thematic boundaries were locked in. Reliability was further bolstered by triangulating findings across different document types and maintaining a comprehensive coding manual. Additionally, a systematic audit trail was kept to log every coding decision, source reference, and date, ensuring that all findings remain directly traceable to the original corporate records.

Since qualitative content analysis depends on stable categories and clear links between raw text and

analytical codes, the credibility of this work rests on methodical clarity rather than simple mechanical replication (Hsieh and Shannon 2005; Neuendorf 2017; Krippendorff 2018; Bowen 2009). Each major theme was grounded in existing literature and every coding step was documented to create a transparent trail of evidence. Quotations were only included when their interpretive meaning could be clearly justified by the original document context. To provide an extra level of scrutiny, an external scholar with expertise in qualitative methods reviewed the framework to check for consistency and clarity. This expert evaluation acted as a secondary safeguard alongside the initial second-coder test performed on the 20% data sample.

The analysis also accounted for researcher positionality and the need for reflexivity. Because the goal was to interpret the deeper meaning of sustainability discourse rather than just counting words, the data was approached from a critical but balanced standpoint. Corporate claims were neither accepted as absolute truths nor dismissed as inherently deceptive from the start. To prevent interpretive drift, all decisions were logged and category boundaries remained anchored in prior academic work. This ensured that every piece of evidence was used only when it could be justified against its original source.

Finally, the study addressed potential threats to validity through several specific safeguards. To mitigate institutional bias from relying on company-produced reports, the analysis prioritized claims that were tied to measurable commitments and cross-referenced them with multiple document types. Regarding the analytical scope, since the study focuses on a purposive sample of eight large firms, the results are intended as a structured comparison rather than statistically generalizable data. The 2020–2024 timeframe was chosen to maintain contextual consistency, though it naturally limits the findings to this specific transition period. Lastly, to ensure linguistic accuracy, the study only included original English texts and excluded any translated or derivative content.

3.6. CREATION OF TABLES AND GRAPHS

Analysis results were presented in three main formats:

- Tables: summary tables presenting one representative core theme and one illustrative statement for each company, alongside comparative tables that synthesise the wider discourse structure.
- Comparative heat maps: Heat maps showing the distribution of binary theme presence across the EU-US, automotive-IT/technology, and region-sector comparison axes.
- Visual Summaries: Heat maps used to condense the relationships between coded themes across regional, sectoral, and cluster-level groupings.

Analysis results were presented through summary tables, comparative heat maps, and cluster-based visual summaries. Short explanatory notes are provided beneath each visual so that the reader can interpret not only thematic intensity but also its comparative meaning across regions and sectors.

3.7. ETHICAL DIMENSION

This study is based entirely on publicly available corporate materials and does not contain any trade secrets or personal data. All corporate content was used under fair use principles for academic purposes. Therefore, it does not require ethical committee approval. However, during the analysis process, great care was taken to ensure that the companies' statements were accurately conveyed and not taken out of context.

4. FINDINGS

The findings of the study are grouped under two main headings and presented in subheadings for the automotive sector and the IT/technology sector. In response to the review process, the comparative pattern structure is now presented through visual heat maps in addition to the summary tables.

4.1. AUTOMOTIVE SECTOR (VOLKSWAGEN, BMW, FORD, GM)

The automotive companies examined during the 2020-2024 period have restructured their sustainability communications during the transition to a low-carbon economy. EU-based Volkswagen and BMW place greater emphasis on measurable targets and compliance with standards in their communications. Meanwhile, US-based Ford and GM legitimise their environmental goals within the framework of economic and social

benefits, using themes such as innovation, leadership, and job creation.

This differentiation can be explained in terms of both the regulatory context (CSRD vs. SEC) and cultural values (long-term compliance vs. entrepreneurial action).

Table 1. Automotive Companies' Strategic Sustainability Narratives for the 2020-2024 Period.

Company (Region)	Core Theme	Example Statement (From Original Sources)	Comment
Volkswagen (EU)	Electrification and Paris-Compliant Roadmap	Our goal is to become a carbon-neutral company by 2050... In line with the Paris Climate Agreement, we aim to cut CO ₂ emissions of our fleet by 40% by 2030 (Volkswagen AG 2023).	Emphasis on measurable targets and compliance with standards
BMW (EU)	Circular Economy and Carbon Neutrality	We are building the most sustainable supply chain in the automotive industry and plan to be climate-neutral along the entire value chain by 2050 (BMW Group 2023).	Supply chain responsibility and long-term vision
Ford (USA)	American Innovation and Job Creation	We are investing \$11.4 billion in electric vehicles, creating 11,000 jobs, and transforming American manufacturing (Ford Motor Company 2023).	Environmental goals + national competitiveness + social benefit
GM (USA)	Zero Emissions, Zero Crashes, Zero Congestion	We aim to eliminate tailpipe emissions from new light-duty vehicles by 2035 (General Motors 2023).	Emphasis on leadership and innovation

Table 1 summarizes four illustrative strategic statements from Volkswagen, BMW, Ford, and GM's sustainability reports and press releases for the 2020-2024 period. Volkswagen has articulated long-term goals: compliance with the Paris Climate Agreement and carbon neutrality by 2050. As the company seeks to regain legitimacy after the diesel scandal, themes of transparency and accountability have become more prominent. BMW is a leader in sustainable luxury because it is committed to the circular economy and supply chain responsibility. It has set targets not only in vehicle production but also in areas such as battery recycling and raw material sourcing. Ford's rhetoric of American innovation and job creation suggests that environmental goals must be presented within an economic and social benefit framework. This is supported by concrete figures such as an \$11 billion investment and the creation of 11,000 new jobs. GM's zero emissions-zero crashes-zero congestion triad demonstrates how the company combines its climate goals with its vision for safety and mobility. This approach has been presented within a voluntary leadership framework in the US. Table 1 shows how EU companies use the language of measurability and compliance, while US companies use the language of leadership and innovation.

	Net Zero	Circularity	Leadership	Jobs	Supply Chain	Ethics / Standards	Ecosystem
EU-based firms	4	1	0	0	2	3	1
US-based firms	4	1	4	1	1	0	2

Legend (binary company count):

0	1	2	3	4
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Binary presence was coded at the company level (0 – absent, 1 – present) and then aggregated by group.

Figure 1. Binary company-count heat map of regional thematic distribution (EU vs US), 2020-2024.

As shown in Figure 1, EU-based firms place greater emphasis on supply-chain responsibility and ethics/standards, whereas US-based firms more strongly foreground leadership and ecosystem-oriented discourse. Employment-linked transition claims are more concentrated in the US group, although workforce transformation also appears in parts of the EU automotive discourse. The regional difference therefore lies not in whether firms invoke social responsibility at all, but in whether they frame it primarily through compliance

and responsibility or through jobs, competitiveness, and transformational leadership.

4.2. INFORMATION TECHNOLOGY/TECHNOLOGY SECTOR (SAP, ERICSSON, APPLE, MICROSOFT)

The IT/technology companies examined for the 2020-2024 period have shaped their sustainability discourse around issues such as supply chain responsibility, energy efficiency, product life cycle, and ethics/human rights, even though their direct emissions are relatively low. EU-based SAP and Ericsson emphasise compliance with EU standards, transparent reporting, and ethical supply chain themes, while US-based Apple and Microsoft stand out with themes such as innovation leadership, ecosystem transformation, and carbon neutrality by 2030.

Table 2. Strategic Sustainability Discourses of IT/Technology Companies for the 2020-2024 Period.

Company (Region)	Core Theme	Example Statement (From Original Sources)	Comment
SAP (EU)	Ethical Supply Chain and Transparent Reporting	Our sustainability strategy focuses on creating a zero-emission, zero-waste, and zero-inequality world with full transparency (SAP 2023).	EU standards and multidimensional goals
Ericsson (EU)	Climate Action and Digitalization	We aim to reach Net Zero across our value chain by 2040 while enabling our customers to reduce their own emissions through digitalisation (Ericsson 2023a).	Net zero and systemic impact narrative
Apple (US)	2030 Carbon Neutrality and Product Life Cycle	By 2030, every Apple product sold will have net zero climate impact (Apple 2020c).	Product-level carbon neutrality + innovation
Microsoft (US)	Carbon Negative Goal and Ecosystem Leadership	We will be carbon negative by 2030 and remove from the environment all the carbon we have emitted since our founding by 2050 (Microsoft 2021).	Leadership, long-term vision, and ecosystem transformation

Table 2 presents four illustrative strategic statements drawn from SAP, Ericsson, Apple, and Microsoft's sustainability materials. SAP's zero emissions, zero waste, and zero inequality statement combines environmental, social, and governance dimensions into a single reporting framework. Ericsson has set an ambitious Net Zero target for its value chain by 2040. This commitment includes a pledge to reduce not only its own emissions but also those of its customers through digitalization, thereby supporting a narrative of systemic impact and ecosystem leadership. Apple's commitment that every product sold by 2030 will have a net-zero climate impact demonstrates its focus on carbon neutrality throughout the product lifecycle. Microsoft's goal of becoming carbon negative by 2030 and removing all carbon emitted since its founding by 2050 is a narrative that demonstrates leadership and long-term vision at its most ambitious.

In summary, Table 2 shows that EU companies have developed narratives based on ethics and compliance, while US companies have developed narratives based on innovation and leadership.

	Net Zero	Circularity	Leadership	Jobs	Supply Chain	Ethics / Standards	Ecosystem
Automotive	4	1	2	1	1	2	0
IT / Technology	4	1	2	0	2	1	3

Legend (binary company count):

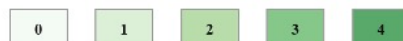


Figure 2. Binary company-count heat map of sectoral thematic distribution (Automotive vs IT/technology), 2020-2024.

As shown in Figure 2, automotive narratives place greater emphasis on employment-linked transition claims and ethics/standards language, whereas IT/technology narratives place greater emphasis on ecosystem transformation and supply-chain framing. Net zero appears in both sectors, while leadership is distributed across the two sectoral groups in similar ways. The sectoral difference therefore lies less in whether firms communicate climate ambition and more in how that ambition is framed: through production transformation and responsibility in automotive cases, and through system reach, platform logic, and lifecycle framing in IT/technology cases.

4.3. COMPARATIVE ANALYSIS: REGIONAL AND SECTORAL DISCOURSE DIFFERENCES

The corporate sustainability discourse of the eight companies analysed for the 2020-2024 period shows distinct differences in both regional context (EU vs. US) and sectoral context (Automotive vs. IT). While the discourses of EU-based companies revolve around measurability, compliance with standards, ethical values, and long-term vision, the themes of leadership, innovation, national competitiveness, and ecosystem transformation come to the fore in US-based companies.

At the sectoral level, automotive companies emphasise technological transformation (electrification, circular economy, supply chain responsibility) and responsibility to future generations in their discourse, while IT/technology companies focus on themes such as ethical supply chain, product life cycle carbon neutrality, ecosystem leadership, and inclusivity.

4.3.1. REGIONAL COMPARISON

Table 3. Comparison of Sustainability Discourse Themes of EU and US-Based Companies.

Theme Category	EU-Based Companies (Volkswagen, BMW, SAP, Ericsson)	US-Based Companies (Ford, GM, Apple, Microsoft)
Measurable Targets and Compliance with Standards	Very strong (CSRD, EU directives)	Moderate (SEC rule still unclear)
Long-Term Vision (2050 targets, etc.)	Frequently emphasised	Frequently emphasised, but within a voluntary leadership framework
Leadership and Innovation	Innovation = technological transformation	Innovation = market leadership, entrepreneurial action
Social and Ethical Values	Ethical supply chain, diversity	Inclusivity, ecosystem transformation
Employment and National Competitiveness	Less emphasis	Strong emphasis (job creation, American leadership)

Table 3 compares the narratives of eight companies in the context of the EU and the US. In EU companies, measurable targets, standard compliance, and ethical supply chain themes appear dominant due to regulations such as the CSRD and the Green Claims Directive. The narrative is reinforced by long-term goals such as carbon neutrality by 2050. US companies, on the other hand, place greater emphasis on voluntary leadership, innovation, employment, and national competitiveness narratives, as the SEC climate rule remains uncertain. This differentiates their storytelling from that of EU companies. Thus, Table 3 shows the distinction between regulation-focused responsibility discourse and leadership-focused inspirational discourse.

4.3.2. SECTORAL COMPARISON

Table 4. Comparison of Discourse Themes in the Automotive and IT/Technology Sectors.

Theme Category	Automotive Sector (Volkswagen, BMW, Ford, GM)	IT/Technology Sector (SAP, Ericsson, Apple, Microsoft)
Carbon Neutrality / Net Zero	CO ₂ reduction in vehicle fleets and production facilities	Product life cycle and supply chain focused
Circular Economy / Supply Chain	Supplier transformation, raw material recovery	Ethical supply chain, transparent reporting
Leadership and Innovation	Electric vehicle technology, mobility	Digital transformation, ecosystem leadership
Social dimension	Employment transformation, workforce skills	Inclusivity, human rights, accessibility

Theme Category	Automotive Sector (Volkswagen, BMW, Ford, GM)	IT/Technology Sector (SAP, Ericsson, Apple, Microsoft)
Regulatory compliance	CSRD and Green Claims Directive in the EU, voluntary reporting in the US	Same framework, but with product-focused metrics

Table 4 shows sector differences. When sector differences are examined through the table, the automotive sector stands out with electrification, circular economy, supply chain transformation, workforce skills acquisition, and future-oriented technical investments. These narratives present a discourse linked to physical production and high direct emissions. In the IT/technology sector, product life cycle, ethical supply chain, inclusivity, human rights, and ecosystem leadership come to the fore; these narratives appear to be more related to low direct emissions and indirect impacts.

The same theme (e.g., net zero) is presented through different stories in the two sectors. The automotive industry attempts to convey its story through technical transformation and process management, while the IT industry does so through ethics and the user ecosystem. Table 4 illustrates how the sectoral context shapes communication strategies.

Comparative analysis shows that EU-based companies use a more accountable language in their sustainability communications, while US-based companies use a more inspiring and leadership-focused language. From a sectoral perspective, technological transformation and process management stand out in the automotive industry, while ethical values and ecosystem leadership stand out in IT. These findings highlight the contextual factors that shape companies' strategic marketing narratives in the transition to a low-carbon economy.

To make regulatory context more analytically visible, the cross-case comparison also treats disclosure regime as a structured interpretive condition rather than as background description alone. In practical terms, the EU cases were read against CSRD-, Green Deal-, and standards-alignment cues, whereas the US cases were read against SEC-related and market-led disclosure cues. This does not amount to statistical testing, but it sharpens the comparative claim that accountability-oriented discourse is denser in EU firms, while innovation- and leadership-oriented discourse is more salient in US firms because the surrounding expectation structures differ.

4.4. DISCUSSION

Table 5. Illustrative triangulation of narrative claims with disclosed transition commitments and financing cues.

Company / cluster	Narrative claim emphasised in corpus	Disclosed transition commitment or financing cue	Triangulation reading
Ford Motor Company (US automotive)	Leadership, scale, and rapid electrification	Ford states that it has planned investments of more than \$50 billion in electric vehicles and batteries from 2022 through 2026.	The innovation-led narrative is supported by a disclosed capital commitment, which gives the discourse more operational weight.
General Motors (US automotive)	Electrification, competitiveness, and transformation	GM reports that it increased EV and AV investments to more than \$35 billion from 2020 through 2025.	The market-led narrative is accompanied by a sizeable technology allocation rather than aspiration alone.
Apple (US IT/technology)	Carbon-neutral products and supply-chain transition	Apple's 2030 roadmap commits to a 75% emissions reduction against its 2015 baseline, with supplier clean energy and product-life-cycle interventions positioned as implementation levers.	The ecosystem narrative is linked to documented transition measures, even though spending is communicated more through programme architecture than a single capex figure.
Microsoft (US IT/technology)	Platform leadership and carbon removal ambition	Microsoft reported spending more than half a billion dollars on carbon reduction, waste management, ecosystem protection, and water replenishment in its 2021 sustainability reporting cycle.	This provides a concrete financing cue behind the broader sustainability platform narrative.
Ericsson (EU IT/technology)	Energy efficiency, network responsibility, and compliance	Ericsson issued a EUR 500 million inaugural green bond in 2023 to finance R&D aimed at improving	The technical-compliance discourse is reinforced by a dedicated financing

Company / cluster	Narrative claim emphasised in corpus	Disclosed transition commitment or financing cue	Triangulation reading
		the energy performance of network products and 5G infrastructure (Ericsson 2023b).	instrument tied to product and network efficiency.

Table 5 is intentionally illustrative rather than exhaustive. It does not replace the qualitative coding analysis; instead, it adds a brief empirical cross-check by comparing selected narrative claims with disclosed transition commitments or financing cues in the same corporate reporting environment.

	Net Zero	Circularity	Leadership	Jobs	Supply Chain	Ethics / Standards	Ecosystem
EU Automotive	2	1	0	0	1	2	0
US Automotive	2	0	2	1	0	0	0
EU ICT	2	0	0	0	1	1	1
US ICT	2	1	2	0	1	0	2

Legend (binary company count): 0 1 2

Figure 3. Binary company-count heat map across region-sector clusters.

Note: Values indicate the number of companies within each region-sector cluster in which the theme was present (0 = absent in both companies, 1 = present in one company, 2 = present in both companies). The heat map condenses the binary coding results across the four two-company clusters and is used as a comparative visual summary rather than as an inferential test.

4.4.1. MANAGERIAL AND POLICY IMPLICATIONS

Viewed from the perspective of narrative decoupling, greenwashing risks tend to escalate whenever a firm's climate ambitions outpace its granular implementation data, interim targets, and verifiable performance indicators. The cases analysed here suggest a fundamental geographic split: while EU companies generally anchor their public discourse in compliance frameworks and structured measurement, their US counterparts are more likely to tie their narratives to strategic momentum and market vision. This does not necessarily mean one region is more 'honest' than the other; rather, it reflects how the burden of establishing credibility shifts depending on the regulatory environment.

Such a distinction also sheds light on why European narratives often lean toward moral and compliance-driven themes, whereas US firms prioritize pragmatic, market-oriented justifications. In Europe, the pressures of the Green Deal and CSRD create an environment that rewards auditability and formal accountability. On the other hand, the US landscape—characterized by more fragmented disclosure rules—incentivizes companies to frame climate action as a driver of competitiveness and innovation. Ultimately, this divergence is about more than just communication style; it is about the different ways institutional legitimacy is earned in each region.

The policy implications of this contrast are twofold. For one, the compliance-heavy discourse in the EU supports the goals of the European Green Deal by making transition claims easier to verify and align with reporting standards. Meanwhile, the innovation-focused rhetoric common in the US can effectively mobilize stakeholder interest. However, for this approach to be effective in terms of disclosure, these aspirational claims must be backed by concrete metrics and investment signals that meet the evolving SEC-related reporting

requirements.

4.4.2. THEORETICAL SYNTHESIS

The discussion does not repeat the descriptive contrasts reported in the findings section; it interprets those contrasts in relation to legitimacy, credibility, and decarbonisation governance. This shift matters because the contribution of the study lies less in listing narrative differences than in explaining what those differences mean under divergent regulatory and sectoral conditions.

The findings are interpreted primarily through legitimacy theory, while NRBV, TBL, and storytelling perspectives provide complementary explanatory support for understanding how firms frame decarbonisation across different regional and sectoral contexts. In EU-based companies, the combination of measurability, standard compliance, and ethical values reflects Hart's (1995) natural-resource-based view's environmental capabilities component and Elkington's (1997) TBL approach in corporate reporting. In US-based companies, the themes of leadership and innovation are more closely aligned with Porter and Kramer's (2011) shared value creation framework and Suchman's (1995) concept of pragmatic legitimacy.

More specifically, firms operating in compliance-intensive environments should translate long-term net-zero claims into dated interim targets, supplier-level requirements, and auditable progress indicators. Firms operating in innovation-led environments should complement visionary transition language with disclosed investment cues, implementation timelines, and product- or infrastructure-level evidence that narrows the gap between ambition and execution. For policymakers, the implication is equally direct: disclosure systems become more effective when narrative claims can be read alongside comparable metrics, financing signals, and transition milestones.

The capacities of pollution prevention, product life-cycle management, and sustainable development envisaged by NRBV correspond closely to the discourses of net zero, circular economy, and ethical supply-chain governance found in the EU cases. In the US cases, similar strategic logic is translated more often into discourses of rapid innovation, ecosystem transformation, and national competitiveness. This finding lends further support to Porter and van der Linde's (1995) proposition that well-designed regulation can stimulate innovation in the EU context, whereas innovation framed through entrepreneurial leadership appears more consistent with the US context.

This pattern can also be interpreted through Suchman's (1995) notion of strategic legitimacy management. In particular, the tendency of emission-intensive automotive firms to foreground future generations, social responsibility, or national leadership alongside selective technical indicators can be read as an effort to secure moral legitimacy in the eyes of stakeholders. In this sense, decarbonisation narratives function not only as marketing messages but also as mechanisms through which firms seek to preserve their social licence to operate.

Legitimacy theory offers the most coherent lens for interpreting the findings because the central issue is not simply what firms communicate, but how they seek social acceptance for transition claims under different institutional conditions (Suchman 1995). EU-based firms rely more heavily on measurability, standards alignment, and accountability language because these forms support moral and cognitive legitimacy in a regulatory environment that values comparability and verifiability, whereas US-based firms rely more visibly on innovation, leadership, and ecosystem influence because these forms appeal more directly to pragmatic legitimacy by linking climate action to market opportunity and competitive strength.

When viewed through the TBL lens, a clear geographic divide emerges. EU firms tend to offer a more equitable and measurable balance across the economic, environmental, and social pillars. In contrast, US companies often justify their social and environmental efforts by framing them as drivers of market leadership or financial expansion—a trend that reinforces Elkington's (2018) observation that TBL is frequently decoupled from core strategy. This cultural divergence is equally visible in their storytelling. Supporting the findings of Dessart and Standaert (2023), EU narratives are often rooted in ethical duty and responsibility. US firms, however, prefer a 'heroic' approach, centering their sustainability efforts on innovation and leadership. Ultimately, these results highlight how deeply cultural narrative forms influence sustainability communication.

These narrative differences matter beyond communication style because corporate decarbonisation discourse can shape how transition priorities are interpreted by investors, regulators, and wider stakeholder groups, which in turn affects the perceived credibility of low-carbon technologies, compliance commitments, and transition-related investments (Suchman 1995; Delmas and Burbano 2011; Dessart and Standaert 2023).

Narrative framing therefore functions not merely as symbolic discourse but as a mechanism that can strengthen or weaken the institutional credibility of decarbonisation strategies.

This study contributes a regional and sectoral comparative perspective to sustainability communication research, which has often examined single sectors or narrow firm groups in isolation. Based on content analysis of eight companies across 2020–2024, the study shows how strategic marketing discourse differs between emission-intensive sectors such as automotive and indirect-emission-intensive sectors such as IT/technology. In doing so, it addresses the legitimacy-greenwashing debate not only as a normative problem but also as a context-sensitive issue shaped by sectoral structure and institutional environment (Delmas and Burbano 2011; Suchman 1995).

The research findings offer practitioners three key recommendations regarding sustainability marketing and corporate communication strategies.

1. Measurability and narrative balance: EU companies more consistently present technical targets and performance indicators, which may enhance the credibility of storytelling.
2. Leadership and participation: US companies illustrate how innovation and leadership themes can establish emotional connections with stakeholders; however, these connections need to be supported by concrete actions.
3. Sectoral customisation: Technical transformation and supply chain responsibility appear particularly important in high-emission sectors such as automotive, whereas ethical and ecosystem-leadership themes are more visible in the IT/technology sector when firms seek to meet stakeholder expectations.

These findings reveal that companies should design their marketing and communication strategies not only around trend words but also around a context-sensitive and measurable framework.

This study examined only the discourse of eight large companies for the 2020–2024 period. Future research could expand this framework to include medium-sized companies, different geographies (e.g., Asia, Africa), and stakeholder reactions on social media. Furthermore, adding methods such as sentiment analysis and network analysis to content analysis will allow for a more in-depth examination of discourse networks and interaction dynamics.

4.5. CONCLUSIONS AND RECOMMENDATIONS

This study examined the sustainability communications of eight leading companies operating in the automotive and IT/technology sectors, based in the EU and the US, between 2020 and 2024. The objective was to understand how strategic marketing discourses are shaped at a time when global carbon reduction is one of the most important issues for businesses. The application of qualitative content analysis to the discourse of EU-based and US-based companies has revealed a marked difference in the themes given primacy in their respective discourses. The former have emphasised measurability, compliance with standards, ethical values, and long-term vision, while the latter have highlighted leadership, innovation, national competitiveness, and ecosystem transformation.

From a sectoral perspective, automotive companies highlighted topics such as technological transformation, electrification, and responsibility to future generations in their discourse, while IT/technology companies focused on themes such as ethical supply chains, carbon neutrality in the product life cycle, and ecosystem leadership. These differences provide important clues as to how regulatory frameworks, cultural values, and stakeholder expectations shape corporate narratives.

This study moves beyond the individual sector and country examples frequently emphasised in the corporate sustainability literature. Hart's (1995) resource-based view, Elkington's (1997) Triple Bottom Line, Suchman's (1995) concept of legitimacy, and Dessart and Standaert's (2023) storytelling approach together indicate that firms actively reshape these frameworks through sustainability communication. In this context, the study offers findings that may inform policymakers, investors, and marketing professionals seeking to interpret low-carbon economy narratives more critically and comparatively.

This research focuses solely on the period 2020–2024 and on eight large companies. The findings are limited in their generalisability because smaller companies and other geographies (e.g., Asia, Africa, and Latin America) were not included. The study also analyses only company-produced statements and does not directly examine stakeholder perceptions or reactions, which limits how far the risk of greenwashing can be assessed from the reception side.

Future research could expand the framework to include greater geographical diversity and stakeholder

reactions, especially through social media data. In addition, combining qualitative discourse analysis with sentiment analysis, network analysis, or machine-learning-based classification could enable broader datasets and more detailed examination of discourse patterns. A further line of research would be policy analysis, particularly the longitudinal tracking of how changes in regulatory frameworks, such as the implementation of SEC climate rules or the expansion of EU directives, reshape corporate discourse strategies.

Several limitations shape the interpretation of the findings. Although a second coder independently coded a randomly selected 20% subset in order to strengthen coding consistency, the study remains a qualitative interpretive design and does not claim statistical generalisability. In addition, the corpus consists of company-produced public documents, which means that the analysis evaluates strategic framing rather than independently verified emissions performance (Hsieh and Shannon 2005; Neuendorf 2017; Krippendorff 2018). The findings should therefore be read as evidence about the credibility structure of corporate decarbonisation discourse rather than as direct proof of transition success or failure.

The findings suggest that corporate storytelling can influence decarbonisation in two directions. Narrative forms that connect climate ambition to measurable commitments, implementation cues, and reporting discipline can strengthen transition credibility and improve stakeholder orientation, whereas narrative forms that privilege aspiration, leadership, and symbolic momentum without comparable operational specificity can weaken that credibility and heighten the risk of greenwashing (Suchman 1995; Delmas and Burbano 2011).

Four practical implications emerge for industry leaders. Primarily, carbon-neutrality claims lose credibility without dated milestones and disclosure-ready metrics. Geography also dictates the strategy: EU communications require heavy alignment with formal standards, but in the US, the focus should shift toward proving that innovation is backed by actual capital investment. Likewise, the industry context matters—automotive firms must tackle supply-chain transitions, while IT/technology firms should focus on life-cycle responsibility. To avoid the greenwashing trap, companies must ensure that their ambitions are reflected in regular, verifiable reporting updates.

Supplementary files

The appendix below expands the condensed coding logic used in the main text and shows how recurrent textual cues were operationalised into comparative categories. The same codebook and decision rules were also used in the second-coder procedure applied to the 20% subset of the corpus.

Theme	Operational definition	Typical inclusion cues	Exclusion boundary	Illustrative anchor
Measurability and compliance	Statements that anchor sustainability claims in targets, standards, reporting protocols, auditability, or externally legible performance routines.	Net zero target, science-based target, CSRD/TCFD alignment, KPI, roadmap, disclosure, assurance, reporting discipline.	Broad sustainability aspiration without metric, timetable, or reporting cue.	Legitimacy theory; accountability-oriented discourse.
Innovation and leadership	Statements that frame climate action as technological leadership, first-mover advantage, strategic momentum, or market shaping.	Leadership, innovation, transformation, competitiveness, pioneering, scale-up, ecosystem leadership.	Pure compliance language without strategic or market framing.	Pragmatic legitimacy; market-led justification.
Supply-chain responsibility	References to supplier decarbonisation, procurement requirements, traceability, or value-chain responsibility.	Supplier clean energy, responsible sourcing, supply-chain emissions, procurement standards, upstream accountability.	General operational efficiency statements with no value-chain reference.	Value-chain governance; implementation depth.
Ecosystem transformation	Claims that position the firm as enabling system-wide transition through partnerships,	Partnerships, ecosystem, platform, enabling others, industrial	Firm-internal operational statements only.	Storytelling and systemic transition framing.

Theme	Operational definition	Typical inclusion cues	Exclusion boundary	Illustrative anchor
Social and moral value	platforms, networks, or infrastructure. Narratives that connect climate action to future generations, responsibility, ethics, trust, or societal benefit.	transformation, network effect. Future generations, ethics, responsibility, trust, communities, societal contribution.	Purely financial or technical statements with no moral appeal.	Moral legitimacy.
Circularity and life-cycle orientation	Statements that frame sustainability through recycling, circular economy, product life-cycle emissions, or material efficiency.	Circular economy, recycled content, life-cycle, closed loop, lower-carbon materials, product footprint.	Standalone renewable energy claims with no product/material dimension.	NRBV and life-cycle capability.

AUTHOR CONTRIBUTIONS

Nebi Seren: Conceptualisation, Methodology, Data collection, Primary qualitative coding, Analysis, Interpretation, Writing the original draft, Reviewing and Editing.

COMPETING INTERESTS

The author declares no competing interests.

DATA ACCESSIBILITY

The corpus used in this study consists of publicly available sustainability reports, corporate webpages, and official press materials cited in the reference list. Appendix A provides the detailed codebook used in the analysis, including the thematic categories, operational definitions, and inclusion cues applied during coding. The document list, coding framework, and analytic summaries are available from the corresponding author upon reasonable request. Because the study is based exclusively on public corporate materials, no restricted personal or confidential data were used.

ETHICAL APPROVAL

Ethical approval was not required because the study relied exclusively on publicly available corporate materials and did not involve human participants, personal data, or confidential records.

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