

# Transparency and sustainability in the making: A corpus-informed comparative analysis of environmental commitments in airline and railway corporate website discourse<sup>1</sup>

**Fabiola Notari, PhD, Research Fellow**

Department of Studies on Language and Culture  
University of Modena and Reggio Emilia, Italy  
[fnotari@unimore.it](mailto:fnotari@unimore.it)

ORCID: <https://orcid.org/0000-0003-4907-3641>

**Abstract:** Amid growing pressure on transport companies to demonstrate environmental and social responsibility, this article examines how major airline and railway operators construct “environmental commitments” on their corporate websites. Adopting a corpus-informed, legal-linguistic perspective, it investigates how such commitments are framed and supported within CSR and sustainability communication. The analysis draws on a purpose-built corpus of ≈15,100 words from eight operators (four airlines, four railway companies), consisting of environment- and sustainability-focused webpages (2023–2025). Methodologically, the study combines frequency-based lexical

---

<sup>1</sup> This research was supported by a grant funded by the Department of Studies on Language and Culture, University of Modena and Reggio Emilia (FAR – Departmental Development Plan 2024, Action 8; CUP E93C24000540005), within the framework of the project supervised by Prof. Franca Poppi and entitled *Communicating Corporate Objectives on Social Responsibility Transparently: Analysis of Social Media and Websites of Railway and Airline Companies*.



profiling and keyword analysis to map how environmental and sustainability themes are distributed across the AIR and RAIL subcorpora. Concordance-based qualitative analysis then examines how responsibility is linguistically construed along a continuum ranging from commitment-oriented lexis (e.g. *commitment, committed, goal, target, ambition*) to explicit obligation (e.g. *obligation, duty*). It also analyses deontic and epistemic modality as well as patterns of agency within a systemic-functional framework. Finally, the study traces legal and quasi-legal references, quantitative baselines and timelines, and third-party validation to assess how far commitments are presented as anchored in external frameworks. Results show that environmental themes occupy a central but differently configured space in both sectors: airline sites foreground climate trajectories, fuel innovation—especially Sustainable Aviation Fuel (SAF)—and global governance frameworks, whereas railway sites emphasise rail’s structurally low-carbon profile, infrastructure management and local socio-environmental benefits. Across both subcorpora, however, the language of commitment and strategic ambition systematically displaces explicit duty: environmental responsibilities are framed less as binding legal obligations and more as voluntary or shared commitments, expressed through soft deontic and prospective modality and dispersed across companies, sectors and technologies. The article argues that, in this genre, credibility relies less on explicit legal obligation than on the density and accessibility of evidential anchors that make commitments publicly traceable while rarely crystallising into clearly enforceable duties.

**Keywords:** environmental commitments; corporate social responsibility (CSR); transparency; modality; agency; legal framing; corpus-informed analysis

### **Trasparenza e sostenibilità in fieri: un’analisi comparativa corpus-informata degli impegni ambientali nel discorso di responsabilità sociale d’impresa sui siti web di compagnie aeree e operatori ferroviari**

**Abstract:** Nel contesto di una crescente pressione sulle imprese di trasporto affinché dimostrino responsabilità ambientale e sociale, l’articolo analizza come i principali operatori del settore aereo e ferroviario costruiscano discorsivamente gli impegni ambientali sui propri siti web istituzionali. L’obiettivo è comprendere come vincoli normativi, dati tecnici e obiettivi climatici vengano trasformati in responsabilità pubblicamente comunicabili, trasparenti solo in parte e raramente formulate come obblighi pienamente vincolanti. L’analisi si basa su un corpus di circa 15.100 parole, composto da pagine web su ambiente e sostenibilità pubblicate tra il 2023 e il 2025 da otto operatori (quattro compagnie aeree e quattro imprese ferroviarie). L’approccio è corpus-informed e integra profilazione lessicale e analisi concordanziale con una prospettiva giuslinguistica e sistemico-funzionale, concentrandosi su tre

dimensioni: la visibilità tematica degli argomenti ambientali, il framing linguistico della responsabilità (lessico, modalità deontica ed epistemica, agency) e il grado di ancoraggio evidenziale e legale degli impegni dichiarati. I risultati mostrano che i temi ambientali occupano una posizione centrale in entrambi i settori, ma sono organizzati secondo logiche differenti: i siti delle compagnie aeree privilegiano traiettorie di decarbonizzazione a lungo termine, innovazione nei carburanti – in particolare il Sustainable Aviation Fuel (SAF) – e cornici di governance globale; quelli ferroviari enfatizzano invece il profilo strutturalmente low-carbon del trasporto su rotaia, la gestione dell’infrastruttura e benefici socio-ambientali territoriali. In entrambi i sottocorpora, tuttavia, il linguaggio dell’impegno e dell’ambizione strategica sostituisce sistematicamente quello dell’obbligo. Le responsabilità ambientali sono presentate come traiettorie scelte, espresse tramite modalità attenuate e un’agency distribuita tra imprese, settori e tecnologie. L’articolo sostiene che, in questo genere testuale, la credibilità della trasparenza non dipende tanto dall’esplicitazione dell’obbligo legale quanto dalla densità degli ancoraggi evidenziali – standard, metriche, timeline e certificazioni – che rendono gli impegni tracciabili e contestabili, pur senza trasformarli in doveri chiaramente coercibili.

**Parole chiave:** impegni ambientali; responsabilità sociale d’impresa (RSI); trasparenza; modalità; agency; inquadramento giuridico; analisi corpus-informed

## **1. Introduction**

In an era of accelerating climate risk and mounting socio-environmental pressure, the transport sector plays a decisive role in shaping public perceptions of sustainability and responsibility (IPCC, 2023). As climate commitments tighten and scientific assessments grow more urgent, organisations are expected not only to reduce environmental impact but also to demonstrate alignment with transition pathways, most prominently those articulated in the Paris Agreement (UNFCCC, 2015). This shift—from ethical aspiration to quantifiable sustainability practice—is reflected in influential CSR frameworks such as the Triple Bottom Line (Elkington, 1997) and in the move from “implicit” to “explicit” CSR responsibility (Matten & Moon, 2008). Under these regulatory and reputational pressures, transparency becomes a central communicative requirement. Companies are increasingly expected to clarify how emissions are measured, how compliance is managed, and

how long-term decarbonisation is planned, yet the linguistic packaging of these commitments remains highly variable.

Despite the centrality of environmental disclosure in contemporary CSR, we still know comparatively little about how transport companies construct environmental responsibilities and commitments on their institutional websites. Unlike social media, corporate websites operate as relatively stable, authoritative hubs where organisations translate complex governance knowledge into publicly digestible narratives, combining evidential content with promotional framing (Iori & Falcone, 2025). In this genre, transparency is produced not simply by “providing information” but by the way performance data, regulatory references and future-oriented targets are selected, foregrounded and woven into a coherent account of action. These communicative choices are realised through modality, evidentiality and the attribution of agency (Halliday & Matthiessen, 2014; Hyland, 2005; Martin & White, 2005), and through strategic calibration between persuasion and substantiation (van Leeuwen, 2008).

As a result, corporate websites offer a privileged site for observing how environmental law and expert environmental knowledge are recontextualised for non-specialist publics (Engberg, 2013) and how legal meaning is reshaped as it circulates across genres and settings (Šarčević, 1997), so that website communication does not merely report environmental action but also helps legitimate it by managing evidential precision in relation to reputational risk (Schnackenberg & Tomlinson, 2016; Fombrun & van Riel, 2004). This view is compatible with transparency models that distinguish disclosure from dimensions such as clarity and accuracy (Schnackenberg et al., 2021).

Research on transport-sector communication has often focused on safety, risk and trust-repair—especially in crisis contexts—showing how organisations manage reassurance and stakeholder relations (Bondi & Nocella, 2023; Rossato & Nocella, 2022; Zaupa, 2025). At the same time, work on transparency in digital discourse underscores that genres matter: corporate websites and social media differ systematically in their dialogic and interactive profiles, so transparency is better treated as a cross-generic phenomenon than as a single communicative style (Falcone, 2025). Corpus-assisted research on CSR adds a further complication by highlighting the prevalence of strategically ambiguous vocabulary which can blur evidential precision and weaken verifiability (Jin, 2022). Such strategic vagueness is widely recognised as a resource for maintaining flexibility while projecting responsibility (Guthey & Morsing, 2014; Frischherz, 2010); in

environmental communication, however, this flexibility becomes methodologically and socially consequential when general sustainability narratives are advanced without the evidential anchors—clear baselines, timeframes or independent checks—that would allow stakeholders to probe claims in a robust way, even though transparency is routinely invoked as a key lever for building trust (Kim & Lee, 2018; Schnackenberg & Tomlinson, 2016). Recent research in the *Iperstoria* special issue *Creating trust through transparency?* (Bondi & Poppi, 2025) has further mapped these tensions across sectors, examining how trust and ambiguity are negotiated through environmental disclosures and public-facing CSR narratives (e.g. Cacchiani, 2025; Poppi, 2025; Malavasi & Nocella, 2025).

Building on this strand, the present study offers a comparative account of how major airline and railway operators make environmental responsibility visible on their institutional websites by recontextualising regulatory frameworks, emissions metrics and net-zero pathways as public-facing commitments. Focusing on the lexicogrammatical resources through which expert environmental and legal knowledge is translated for non-specialist audiences, it examines how—and how far—references to laws, targets, baselines/timelines and external validation are mobilised to render commitments traceable to external norms and third-party assessment, and whether this traceability stabilises responsibility as enforceable duty or, instead, keeps it open as voluntary, strategic or shared commitment. Transparency is therefore approached less as a binary property than as a calibratable evidential practice: rather than adjudicating the factual accuracy of claims, the analysis asks how readily a commitment can be followed back to named frameworks, measurable trajectories and independent checks—an evidential–legal threshold that remains comparatively under-explored in transport web discourse. On this basis, the article addresses three interrelated research questions:

**RQ1.** How do airline and railway websites make environmental and sustainability themes visible, and which aspects do they foreground?

**RQ2.** How do airline and railway websites use language to frame environmental commitments?

**RQ3.** How, and to what extent, are these environmental commitments presented as anchored in legal or quasi-legal frameworks?

On balance, these questions move from what is made salient (RQ1), to how responsibility is voiced and distributed (RQ2), and finally to how commitments are stabilised—or kept open—through legal and evidential anchoring (RQ3). The remainder of the paper is organised as follows. Section 2 sets out the research design, Section 3 presents the analytical procedure, Section 4 presents the results, and Section 5 concludes by relating these findings to sector-specific governance structures and outlining the main contributions and implications.

## **2. Dataset**

The study draws on a purpose-built corpus of  $\approx 15,100$  words of English institutional website text produced by eight major transport operators: four airlines (ITA Airways, British Airways, Delta Air Lines, China Southern Airlines) and four railway companies (Trenitalia, Network Rail, Amtrak, China Railway). The corpus was compiled between 2023 and 2025 and consists of webpages explicitly dedicated to environmental and sustainability issues (e.g. “Environment”, “Sustainability”, “Climate Action”) within each company’s core site architecture.

Two sectoral subcorpora were extracted for comparison (AIR  $\approx 9,600$  words; RAIL  $\approx 5,500$  words). The size difference reflects website architecture: airline sustainability sections are typically longer and more text-heavy than railway equivalents. The same inclusion criteria were applied in both sectors (core environment/sustainability webpages; excluding press releases and standalone PDF reports), and sampling was kept symmetrical by number of companies (four per sector). All frequencies reported in Section 4 are normalised per 1,000 words.

Webpages were captured in their original HTML and converted into analysis-ready text, preserving headings and paragraphing. To limit confounds, the dataset consists of four airline–railway pairs drawn from the same national contexts (Italy, the UK, the US, and China), enabling cross-mode comparison under comparable regulatory conditions.

### 3. Analytical Procedure

The analysis follows a two-stage corpus-assisted design, combining an exploratory corpus-driven phase with a corpus-based, functionally oriented interpretation (Biber, Conrad & Reppen, 1998), informed by systemic-functional and legal-linguistic frameworks (Halliday, 1994; Halliday & Matthiessen, 2014; Palmer, 2001; van Leeuwen, 2008; Engberg, 2013). First, lexical profiling was conducted on the AIR and RAIL subcorpora using AntConc (Anthony, 2019) and Sketch Engine<sup>2</sup> (Kilgarriff et al., 2004). Wordlists were extracted, cleaned to remove punctuation, isolated numerals and other non-lexical items, and normalised per 1,000 running words to identify salient environment- and sustainability-related lemmas (e.g. emissions, fuel, climate, carbon, railway, train, SAF, MtCO<sub>2e</sub>). In parallel, each subcorpus was compared with the British English 2021 (BE21) reference corpus in Wmatrix (USAS semantic tagging) (Rayson, 2009) to identify statistically over-represented semantic domains (e.g. *M5 Flying and aircraft*; *W5 Green issues*; *M3 Vehicles and transport on land*; *O1.3 Substances and materials: Gas*; *O3 Electricity and electrical equipment*). Guided by the resulting semantic profiling, high-frequency environmental lemmas were grouped ex post into five lexical/semantic domains (*Climate & emissions*; *Energy & fuels*; *Fleet & transport mode*; *Governance & accountability*; *Communities & territory*), with domain assignment based on USAS tags and concordance-based inspection of typical co-texts.

Second, environmental commitment clauses were identified and analysed lexico-grammatically to examine responsibility framing. The unit of analysis was the environmental commitment clause, defined as any clause in which an organisation (or sector/technology) construes environmentally oriented action through duty/obligation formulations, commitment/aspiration statements, or goal/target projections in combination with modal choices and grammatical subject selection. Responsibility stance lexis was identified corpus-driven from the AIR and RAIL wordlists and grouped into (a) duty-oriented items (e.g. *duty*, *obligation*, *requirement*) and (b) voluntary/strategic engagement items

---

<sup>2</sup> Sketch Engine was used for lemmatised frequency profiling on cleaned running tokens; AntConc was used mainly for concordance checks.

(e.g. *commitment, committed, goal/goals, target/targets, aim/aims, ambition/ambitious*).

Concordance lines were manually checked to confirm responsibility uses in context, and the two sets were compared on a normalised (per-1,000-word) basis for frequency and recurrent phraseology. Modal resources in commitment clauses were coded following Palmer (2001) and Halliday (1994): occurrences of *must, shall, will, can, need (to), may, could, likely, approximately* (including approximators such as *up to*) were classified by modal domain and force (strong deontic obligation; weaker deontic intention/commitment; dynamic capacity; epistemic possibility/probability/approximation). To separate futurity from commitment, *will* was coded as soft deontic commitment when co-occurring with an agentive subject and a controllable process (e.g. *we will + V*), and as predictive futurity otherwise. The same clauses were also analysed for transitivity and agency using systemic-functional process types and social-actor representation (Halliday & Matthiessen, 2014; van Leeuwen, 2008). Actor and Affected roles in material processes were identified to trace how responsibility is realised across corporate actors (e.g. *we*), sectoral abstractions (e.g. *aviation/railway*), and technological/infrastructural entities (e.g. *aircraft/trains/systems*).

Finally, the same set of commitment clauses was coded for evidential and legal anchoring, operationalised through three types of external reference. The first dimension captures legal and quasi-legal referents, including mentions of laws and regulations (laws, regulations, compliance, regulatory obligations), international and regional climate instruments (e.g. the Paris Agreement; the EU Emissions Trading System; “Fit for 55”) (European Commission, 2021a, 2021b; European Union, 2023), sector-specific schemes (e.g. CORSIA) (International Civil Aviation Organization, 2022), and policy frameworks in the Chinese railway material (e.g. carbon-peaking and neutrality requirements; Five-Year Plan provisions).

For the purposes of this analysis, legal anchoring refers to references to formally binding sources (laws, regulations, statutory requirements); quasi-legal anchoring refers to non-statutory but norm-setting instruments that operate through standardisation, certification and third-party assessment (e.g. ISO-type standards, product declarations, ratings); and frameworks refers to policy and disclosure architectures that structure alignment and reporting at a global scale (e.g. transnational schemes and validation/disclosure regimes), rather than to operational standards.

Each occurrence was coded for the referent type, and for how the commitment was positioned with respect to it, distinguishing alignment formulations (e.g. in line with / aligned with) from construals of requirement grounded in binding rules. The second dimension captures quantitative baselines and temporal horizons (base years; long-term target dates; percentage reductions; intensity metrics; cross-modal comparisons in MtCO<sub>2</sub>e), coded to assess whether commitments are embedded in measurable, time-bound trajectories that could, in principle, be monitored. The third dimension captures external validation through references to certifications, audits and awards (e.g. ISO 14001, EcoVadis, EPD/SPD declarations, IEnvA modules, and scheme accreditations under CORSIA/EU ETS/UK ETS/ACA/EU MRV/CSI/IMO DCS), coded via concordance analysis to determine whether validation markers are tied to specific commitments or function more diffusely as signals of institutional reliability.

## **4. Results**

### **4.1 Thematic visibility of environmental commitments across sectors (RQ1)**

The lexical profiling and thematic domain analysis indicate that environmental themes are highly salient in both airline and railway websites. Using normalised frequencies (per 1,000 words), a relatively small set of high-frequency content lemmas accounts for most environment- and sustainability-related discourse in both subcorpora and clusters into a limited number of recurrent lexical/semantic domains.

High-frequency environmental lemmas were grouped into five domains: Climate & emissions, Energy & fuels, Fleet & transport mode, Governance & accountability, and Communities & territory. Table 1 reports representative items for each domain in the AIR and RAIL subcorpora, along with normalised frequencies where applicable.

Across both subcorpora, the Climate & emissions domain is tightly interwoven with Energy & fuels and Fleet & transport mode, so that environmental responsibility is consistently framed through what

fuels are used and which transport modes are promoted. Governance & accountability and Communities & territory, in turn, locate responsibility by signalling where it is anchored and to whom it is made visible, moving between global governance regimes and more localised publics.

**Table 1. Representative lexical items and normalised frequencies (per 1,000 words) in AIR and RAIL by lexical/semantic domain (cleaned running tokens).**

<b>Lexical domain</b>	<b>AIR subcorpus</b>	<b>RAIL subcorpus</b>
<b>Climate &amp; emissions</b>	<i>emissions</i> 82 (8.5/1k); <i>fuel</i> 62 (6.5/1k); <i>carbon</i> 46 (4.8/1k); <i>climate</i> 30 (3.1/1k)	<i>emissions</i> 33 (6.0/1k); <i>energy</i> 36 (6.5/1k); <i>carbon</i> 22 (4.0/1k); <i>MtCO<sub>2e</sub></i> 14 (2.5/1k)
<b>Fleet &amp; transport mode</b>	<i>aviation</i> 51 (5.3/1k); <i>aircraft</i> 46 (4.8/1k); <i>airline</i> 16 (1.7/1k); <i>flight</i> 60 (6.3/1k)	<i>railway</i> 40 (7.2/1k); <i>rail</i> 32 (5.8/1k); <i>train</i> 31 (5.6/1k); <i>trains</i> 22 (4.0/1k)
<b>Energy &amp; fuels</b>	<i>SAF</i> 54 (5.6/1k); <i>fuels</i> 21 (2.2/1k); <i>jet</i> 18 (1.9/1k)	<i>hybrid</i> 8 (1.4/1k); <i>electric</i> 7 (1.3/1k)
<b>Governance &amp; accountability</b>	<i>compliance</i> 15 (1.6/1k); references to CORSIA, EU ETS, SBTi, TCFD, IEnvA	references to EcoVadis, ISO 14001, EPD, SPD, Sustainable Rail Blueprint, Ecopassenger
<b>Communities &amp; territory</b>	<i>customers</i> 13 (1.4/1k); <i>stakeholders</i> 3; <i>global</i> 13 (1.4/1k)	<i>communities</i> 8 (1.4/1k); <i>seaside, parks/national parks, businesses</i> 5, <i>economy</i> 5

#### **4.1.1 Climate–fuel–mode configuration**

In the AIR subcorpus, this Climate & emissions–centred framing is visible in the prominence of emissions ( $\approx 8.5$  per 1,000 words), fuel ( $\approx 6.5/1,000$ ) and carbon ( $\approx 4.8/1,000$ ), which co-occur systematically with environmental, climate, CO<sub>2</sub> and future-oriented temporal markers such as 2050 and net zero. Environmental responsibility therefore tends to be construed primarily in terms of reducing greenhouse-gas emissions along long-range trajectories, while other potential

dimensions of environmental impact receive comparatively little discursive visibility. Notably, despite frequent references to regulatory and governance cues elsewhere on the websites, the AIR material gives limited prominence to compliance-oriented duties (such as monitoring, reporting and auditing) and to locally regulated impacts including noise, air quality and waste.

This climate–emissions storyline is reinforced by the Governance & accountability profile of airline discourse. Airline websites repeatedly invoke global climate-policy and disclosure frameworks—most prominently CORSIA, the EU Emissions Trading System, the Science Based Targets initiative, the Task Force on Climate-related Financial Disclosures and IEnvA—alongside compliance- and policy-oriented formulations (compliance: 15;  $\approx 1.6/1,000$ ), such as “compliance with regulatory obligations” or “our environmental policy is aligned with...”. Taken together, these resources position environmental responsibility within transnational reporting architectures and internationally recognised benchmarks rather than within firm-specific operational duties. From a legal-linguistic perspective, this cumulative scaling-up—from firm-level action to sectoral, technological and governance-oriented framings—can be read as foregrounding trajectories while giving less visibility to firm-bound, operationalised duties. Aviation-specific lemmas such as aviation, aircraft, airline and flight(s) repeatedly recontextualise responsibility as that of “aviation” or “the global aviation industry” (e.g. “aviation is a hard-to-abate sector”, “aviation’s carbon emissions”), thereby shifting responsibility to the sectoral level and diluting the visibility of a clearly bounded company-level actor.

A similar move operates at the level of technological agency, where responsibility is channelled through enabling solutions rather than firm-bound duties. Fuel innovation is condensed into the highly salient acronym SAF<sup>3</sup> ( $\approx 5.6/1,000$ ), which clusters closely with fuels and jet. Importantly, SAF is not merely a technical keyword: it names a category that is both technologically compatible with existing aviation systems (as a “drop-in” fuel) and strongly governed through

---

<sup>3</sup> Sustainable Aviation Fuel (SAF) is a category of alternative aviation fuels designed to reduce lifecycle greenhouse-gas emissions compared to conventional fossil jet fuel. SAF can be produced from bio-based feedstocks (e.g. waste oils, agricultural residues) or through synthetic processes using captured carbon and renewable energy, and—crucially—it is certified to be *drop-in*, meaning it can be blended with conventional jet fuel and used in existing aircraft and fuel infrastructure without technical modification.

certification procedures, sustainability criteria and blending limits. Within this climate–fuel–mode configuration, SAF emerges as a particularly powerful label, condensing climate policy, innovation and environmental commitment into a compact and positively loaded term. In doing so, it supports a narrative of decarbonisation without major structural disruption to prevailing aviation practices, visible in formulations such as “we will be refuelling our aircraft with at least 10% SAF by 2030” and in recurrent net-zero targets framed through technological innovation, fleet renewal and efficiency gains.

Accordingly, “doing something” about environmental responsibility is narrated primarily as changing what goes into the tank—scaling SAF, renewing fleets and improving fuel efficiency—rather than as constraining demand or revisiting business models. What remains largely unthematized at this level are topics that would imply explicit limits: demand or flight reduction, limits to growth, modal shift (air to rail), pricing mechanisms designed to discourage flying, or a redistribution of responsibility across companies, states and users. These issues are not absent from climate governance debates—and some are structurally embedded in governance regimes such as emissions trading and sectoral schemes—but they do not become salient themes in the websites’ environmental narrative.

From a transparency perspective, the prominence of SAF- and efficiency-oriented lexis should not be treated as an allegation of deception, greenwashing, or non-compliance. Rather, it points to a more specific discourse pattern: transparency in this genre hinges on what kind of action is made visible. When environmental responsibility is repeatedly articulated through technical interventions—fuel substitution, fleet renewal, efficiency gains—while measures that would entail clearer constraints and politically or legally costly trade-offs remain comparatively backgrounded, transparency is performed as a selective and partial practice. In other words, the discourse foregrounds what is readily communicable as commitment and improvement, and gives less thematic prominence to what would look like constraint. The result is a gap between making transparent how the system can be improved and making transparent what limits the system is prepared to accept—an analytically important intersection of thematic visibility, evidential transparency and legal framing.

Conversely, within the same Climate & emissions domain, the semantic centre of gravity in the RAIL subcorpus shifts away from future-oriented decarbonisation pathways and towards rail as a low-emission transport system. The contrast, then, is not the presence or

absence of climate lexis—salient in both datasets—but how that lexis is organised: in AIR, responsibility is anchored in an emissions-and-fuel trajectory projected forward, whereas in RAIL it is anchored in the performance of the transport mode in the present. This is reflected in the lexical profile of the railway corpus, where high-frequency mode terms—railway (40;  $\approx 7.2/1,000$ ), rail (32), train (31) and trains (22)—occupy the top band of the wordlist and co-occur with emissions (33;  $\approx 6.0/1,000$ ), energy (36;  $\approx 6.5/1,000$ ), consumption (15) and carbon (22;  $\approx 4.0/1,000$ ). The repeated coupling of mode-specific and emissions/energy vocabulary suggests that environmental responsibility is thematised less as a problem to be solved through future pledges and more as a property of the mode and its system-level performance.

This AIR–RAIL configurational difference is reinforced by how energy transition is lexicalised. Instead of a single flagship acronym comparable to SAF—which in airline discourse condenses innovation, decarbonisation and commitment into a compact label—railway texts mobilise a more dispersed vocabulary (hybrid, electric, renewable, photovoltaic), consistent with a framing of decarbonisation as incremental system optimisation rather than reliance on a single technological solution. This contrast is also visible in the evidential texture of the discourse: where airline narratives often foreground input-oriented promises (what fuels will be used and scaled), rail websites systematically deploy comparative performance markers—most notably  $\text{MtCO}_2\text{e}$  (14;  $\approx 2.5/1,000$ ) and year/value clusters (1990, 2016, 70.3, 72.3, 20.3, 1.4)—which evoke cross-modal benchmarking between rail, road and aviation emissions. In this way, rail is positioned as the “cleanest and greenest” option within a wider transport mix rather than as an isolated corporate emitter, rendering commitments visible through comparative proof as well as through absolute reduction claims. This present-performance orientation is also visible in formulations such as Amtrak’s claim that rail is “46% more energy-efficient than driving and 34% more than flying”, which frames environmental responsibility through already measurable comparative advantage.

## **4.1.2 Governance & accountability**

At first glance, airline and railway websites appear to draw on a similar repertoire of governance references—standards, certifications, schemes and reporting frameworks. From a legal-linguistic perspective, however, the key issue is not simply whether such norms are cited, but what kind of normativity is made visible, at what level, and with what discursive function. In the railway corpus, Governance & accountability is realised mainly through sectoral, managerial and product-oriented instruments (e.g. ISO 14001, EPD/SPD declarations, EcoVadis ratings, the Sustainable Rail Blueprint and the UIC’s Ecopassenger calculator), which foreground routinised infrastructures of measurement, certification and benchmarking. Discursively, this supports a view of environmental responsibility as present, system-level performance—reinforced by comparative indicators such as MtCO<sub>2</sub>e and cross-modal baselines—so that credibility is grounded in operational evidence and third-party evaluation. This view is visible, for example, in references to Ecopassenger as an official comparison tool and to certification devices such as ISO 14001, EPD/SPD and EcoVadis, which frame environmental credibility through standardised measurement and third-party assessment. Airline websites, however, foreground macro-regulatory and disclosure-oriented frameworks (e.g. CORSIA, EU ETS, SBTi, TCFD, IEnvA), positioning responsibility within transnational reporting architectures and target-based pathways rather than within day-to-day procedural routines. Here, credibility rests less on routinised performance benchmarking and more on the coherence of alignment with globally recognised governance regimes. This AIR orientation is evident in formulations that present climate disclosures in line with TCFD recommendations, link emissions inventories to the GHG Protocol, or frame targets as SBTi-validated, thereby foregrounding disclosure and alignment rather than day-to-day procedural compliance. In discursive terms, the contrast between AIR and RAIL therefore lies not in the presence or absence of governance references, but in how norms are discursively recontextualised—either as routinised practice and measurable performance (RAIL) or as strategic alignment within transnational regimes (AIR)—with clear consequences for how environmental responsibility (and transparency) is thematically constructed.

### **4.1.3 Communities & territory**

The Communities & territory domain adds a further layer of divergence. In the railway subcorpus, communities (8;  $\approx 1.4/1,000$ ) co-occurs with items such as seaside, villages, parks/national parks, businesses and economy, pointing to place-based narratives of local benefit, landscape protection and reduced road traffic. In airline texts, by contrast, the same semantic space is populated more prominently by customers (13;  $\approx 1.4/1,000$ ), stakeholders, global and world (26), constructing responsibility as oriented towards diffuse, deterritorialised publics rather than situated local communities.

This contrast suggests that rail websites thematise environmental responsibility through territorially embedded benefits, whereas airline websites tend to frame it for geographically diffuse stakeholder publics. Such a distinction is further reflected in formulations that foreground local communities and place-based benefits in railway discourse, while airline websites more often refer to customers, partners and global stakeholders. Collectively, these patterns show that while both sectors signal accountability, they do so in different directions: airlines align responsibility with global governance frameworks and generic stakeholder audiences, whereas rail operators embed it in sectoral management infrastructures and territorially anchored narratives of service. More broadly, this divergence underpins the distinct thematic configurations observed across the corpora, with airline websites projecting long-range climate pathways and fuel innovation within global governance frames, and railway websites foregrounding modal advantage, infrastructural stewardship and local socio-environmental benefits.

### **4.2 Voicing environmental commitments (RQ2)**

Having established which environmental and sustainability themes are made salient in the two subcorpora, this section examines how airline and railway websites discursively construe responsibility. Across both subcorpora, environmental commitments are rarely cast as immediately binding legal duties; instead, responsibility is typically presented as a strategic trajectory that organisations choose, plan and enable over time.

This framing is realised through three interrelated lexico-grammatical dimensions: (i) a preference for commitment- and ambition-oriented lexis over the vocabulary of obligation, (ii) a modal repertoire dominated by root modality, and (iii) patterns of agency that distribute responsibility across companies, sectors and technologies.

At the level of responsibility stance, both sectors display a clear preference for commitment-oriented lexis. In the AIR subcorpus, the commitment field is realised mainly through *commitment* (11 occurrences) and *committed* (13), clustering with goal- and target-oriented nouns such as *goal/goals* (26) and *target/targets* (11), together with a smaller set including *ambition/ambitious*. Typical phraseology includes “our commitment to continual improvement of our environmental performance” and goal formulations such as “our goal is to achieve net-zero emissions by 2050”. In a ≈9,600-word subcorpus, this corresponds to roughly 2–3 instances per 1,000 words for the commitment field, mirrored by a comparable density of goal/target lexis, while the explicitly legal lexeme *obligations* appears only once, in a compliance clause (“compliance with regulatory obligations”) embedded in an environmental management-system paragraph. This implies that the AIR websites foreground what airlines are committed to do and aim to achieve over time rather than what they must do as a matter of immediate obligation. This preference is visible in recurrent formulations such as “our goal is to achieve net-zero emissions by 2050” and “we will be refuelling our aircraft with at least 10% SAF by 2030”, which frame environmental responsibility as planned future action rather than binding duty. A similar profile characterises the RAIL subcorpus. Here, *commitment* (10 occurrences) and *committed* (10, plus a single infinitival *commit*) again form the core of the responsibility lexicon, co-occurring with *goal/goals* (7), *target/targets* (11) and *aim/aims/aimed/aiming* (6), alongside *ambition/ambitious* (3). These items are embedded in managerial formulations such as “our goal is to double that number by 2030”, “Amtrak aims to reach this goal...”, and “commitment to the UN’s Sustainable Development Goals”. As in AIR, explicitly legal lexemes such as *obligation(s)* and *duty/duties* are absent; the nearest equivalents are a small set of *require/requirement(s)* tied to external policy and technical standards, and a metadiscursive formula that sustainability “requires constant commitment”. Across both sectors, then, environmental responsibility is re-lexicalised as a matter of commitments, goals and targets rather than obligations or duties, bringing into view a landscape of self-declared ambitions rather than a clearly delineated set of enforceable duties. A similar pattern

appears in the railway material, in formulations such as “our goal is to double that number by 2030” and “we’ll achieve net zero carbon emissions by 2050”, which likewise construe responsibility through projected achievement rather than immediate legal obligation.

Modal patterns reinforce the same orientation by making obligation linguistically available but pragmatically backgrounded. In the AIR subcorpus, strongly obligative forms are marginal: *must* occurs only once, in a meta-regulatory reflection on SBTi validation (“we must withdraw and reapply”), and *shall* appears only in a narrow procedural clause about in-flight meal provision (“the in-flight meal service shall be subject to the actual meal supply”). Explicit obligation is likewise peripheral, surfacing only once in the formulaic reference to “regulatory obligations”. By contrast, *will* occupies a central position (37 occurrences) in clauses with agentive subjects and controllable processes (e.g. “we will be refuelling our aircraft with at least 10% SAF by 2030”; “China Southern will build its ‘Green Flight’ brand”), projecting commitment as planned, actionable future conduct. Dynamic *can* forms the other major pillar of the AIR modal repertoire (23 occurrences), especially in descriptions of technological and organisational capacity: improved air traffic management “can reduce CO<sub>2</sub> emissions by up to 10%”, and passengers “can help speed up [SAF] adoption...”. Epistemic hedges such as *may*, *could*, *likely*, along with approximators such as *up to* and *approximately*, further qualify claims about benefits and impacts, introducing managed uncertainty while keeping projected outcomes plausible and less readily falsifiable as strict commitments. The overall effect is that airlines describe what they will and can do, and what may or could happen, far more often than what they must do. In this sense, modality helps shift environmental responsibility from the language of obligation to that of capacity, intention and projected progress.

The RAIL subcorpus exhibits an even more pronounced avoidance of hard deontic marking in the environmental sections: no instances of *must* or *shall* occur, and the lexeme *obligation(s)* is absent. Instead, RAIL relies almost exclusively on root modality, combining deontic *will* for projected initiatives and dynamic *can* for capacity, with little explicit epistemic marking of uncertainty. Necessity is expressed through softer resources such as *need/needs/needed* (“we need to put sustainability at the core of how we do business”) and through a small cluster of *require/requires/requirements* linked to external policy and technical standards. As in AIR, *will* is the default commitment marker (16 occurrences), used to project corporate initiatives and system

behaviour (e.g. “we’ll achieve net zero carbon emissions by 2050...”; “the area will be implemented...”). In these contexts, *will* typically co-occurs with agentive subjects and controllable processes (achieve, go greener, implement), fitting the profile of soft deontic promise rather than categorical legal ultimatum. Here too, environmental action is framed less as compliance with a binding requirement than as a planned and manageable trajectory.

Agency patterns further shape how responsibility is made visible and how accountability is distributed. In the AIR subcorpus, first-person corporate voice is highly prominent (*we* 137; *our* 201), typically aligning the company with action and responsibility (“we are working to minimise our impact...”, “we are committed to achieving net zero...”). At the same time, agency is regularly redistributed to sector-level and technological actors. The lemma *aviation* (51 occurrences, plus *aviation’s* in “aviation’s carbon emissions”) frames responsibility at the level of the sector or industry, especially in hard-to-abate formulations, while technological entities such as *aircraft* and *fleet* are repeatedly presented as agents that deliver benefits (they “provide fuel savings...”, “enable us to reach true zero emissions”). In legal-linguistic terms, this makes action appear distributed across systems and artefacts rather than anchored solely in a clearly liable corporate subject.

In the RAIL subcorpus, first-person plural forms are again prominent (*we* 44; *our* 48), presenting operators as active, caring agents (“we are committed to delivering a greener railway...”). Yet environmental performance is also frequently attributed to the mode and its infrastructure. High-frequency lemmas such as *railway/railways* (45) and *rail* (32) support a quasi-personification of rail as a collective actor (“rail is one of the lowest-carbon...”, “rail has consistently produced...”), while *trains* and *fleets* are likewise cast as agents (“a single train removes up to 500 cars...”, “the new Regional trains ... consume 30% less energy”). This distribution renders decarbonisation as a property of infrastructures and modes as much as of operators, making responsibility appear collective and systemic rather than attributable to a single accountable actor.

In combination, the lexical profile, modal repertoire and agency distribution across AIR and RAIL converge on a similar communicative effect. Environmental commitments are framed as future-oriented trajectories grounded in organisational ambition, technological capacity and sector-wide collaboration, lexically saturated with *commitment*, *goal*, *target* and *strategy*, and grammaticalised through patterns such as

*we will, we are committed to, trains can and aviation can*. The idioms of *must, shall* and *obligation* recede to the margins, replaced by a managerial, ESG-inflected language of pledges and long-term plans. From a legal-linguistic perspective, the combined effect is that alignment with climate and ESG regimes is constructed less as enforceable duty than as voluntary orientation to long-term goals, so that enforceability remains linguistically and pragmatically backgrounded.

### 4.3 Evidential transparency (RQ3)

Across the dataset, the two sectors display distinct “anchor profiles”. In this respect, legal and quasi-legal cues are more prominent in RAIL (legal referents 3.45/1k, n=19; quasi-legal instruments 5.27/1k, n=29), whereas AIR relies more heavily on governance and disclosure architectures, including framework-based alignment (1.80/1k, n=20) and policy positioning (2.43/1k, n=27).

Put differently, rail operators tend to perform sustainability transparency through operationally checkable devices—standards, certifications, ratings and sectoral calculators—which frame responsibility as routinised management and measurable performance. In the railway corpus, this anchoring is dominated by quasi-legal resources, with standards/certifications and sectoral benchmarking tools forming the most recurrent profile (5.27/1k, n=29). Lexical nodes such as *standard(s)*, *certified* and *certification* cluster around named schemes and formalised assessment routines, and Trenitalia repeatedly ties environmental claims to recognisable certification practices, for instance through FSC-certified paper and system-level environmental certification for its integrated management procedures. The same logic extends to procurement and resource use, where renewable electricity is presented as certified, turning energy sourcing into an auditable claim rather than a purely aspirational statement. A further quasi-legal node is *Ecopassenger* (n=3), the UIC calculator used to quantify emissions per passenger. Here it is framed explicitly as a transparency device, allowing users to compare CO<sub>2</sub> emissions across travel modes and feeding data into sustainability reporting processes, thereby coupling routinised standardising practice with an overt quantitative anchor. A similar logic is visible in Trenitalia’s use of third-party validation

devices such as EPD/SPD certification and EcoVadis, which make environmental claims appear externally checked rather than merely self-declared.

Alongside these quasi-legal cues, the Chinese railway material introduces more explicitly legal anchoring (3.45/1k, n=19). Environmental impact assessment and water conservation are framed as preconditions for project initiation “in compliance with laws and regulations”, and commitments are positioned within statutory requirements—such as carbon-peaking/neutrality requirements and Five-Year Plan provisions—that operate as external yardsticks. From a legal-linguistic perspective, this is important because it moves beyond reputational signalling and ties at least part of the environmental discourse to explicitly binding norms, even if these are not always elaborated as directly enforceable duties at company level.

Finally, policy frameworks also appear as alignment cues in the railway corpus, but at comparatively low density (0.36/1k, n=2), with Network Rail aligning its “Greener Railway strategy” with the Paris Agreement and the UN Sustainable Development Goals to situate claims within widely recognised agendas and render them intelligible—and, in principle, assessable—to broader publics.

Airline websites, by contrast, more often stage transparency through alignment with reporting and target-setting regimes (e.g. TCFD, SBTi, the GHG Protocol) and sectoral governance schemes (e.g. CORSIA, EU ETS), presenting responsibility as a pathway towards future milestones. The upshot is that “disclosure” takes different shapes in the two sectors, taking a more procedural, benchmark-oriented form in RAIL and a more framework- and pathway-oriented form in AIR. In the airline subcorpus, evidential transparency is less tightly organised around procedural standardisation and more around climate-policy and risk/disclosure architectures. Framework-based anchoring is prominent (framework alignment 1.80/1k, n=20), as in Delta’s discourse where climate-related information is presented “in line with” TCFD recommendations, targets are framed as SBTi-validated, and emissions inventories are linked to the GHG Protocol, collectively foregrounding disclosure, target-setting and methodological alignment as key credibility cues. These frameworks strengthen traceability and reputational credibility, but they do not in themselves establish immediate legal liability in the way that direct statutory obligations would.

Alongside these framework references, airlines also mobilise quasi-legal validation markers, but typically as a secondary layer and

often tied to bounded certification scopes (procedural standards & certification 2.25/1k, n=25). British Airways, for instance, notes independent auditing of ESG performance data and references IEnvA certification for its environmental management system, signalling third-party assessment while keeping the centre of gravity on governance and reporting infrastructures. More explicitly legal anchoring surfaces most clearly at the level of sectoral regulation (legal referents 1.44/1k, n=16), where airline pages reference CORSIA as a global measure addressing aviation emissions and define SAF through the RefuelEU Aviation Regulation. Importantly, then, the airline corpus constructs traceability primarily through participation in global disclosure, validation and governance regimes, rather than through the routinised procedural benchmarking that characterises the railway corpus.

Beyond explicit references to norms and third-party schemes, both sectors converge in their systematic use of quantification as an evidential anchor, combining baselines and timelines for long-term targets (with 2030 and 2050 as key temporal horizons) with intensity metrics and cross-modal comparisons that strengthen the checkability of claims even where surrounding phrasing remains commitment- and aspiration-oriented. These quantitative anchors contribute directly to evidential transparency by making commitments more traceable to publicly inspectable reference points and, at least in principle, contestable.

Temporal anchoring is denser in AIR (baselines & timelines 8.57/1k, n=95) than in RAIL (7.64/1k, n=42), consistent with the stronger orientation of airline discourse towards target-setting and multi-stage roadmaps. Network Rail undertakes to achieve net zero carbon emissions by 2050 (and 2045 in Scotland) within a 30-year strategy, while Amtrak anchors progress claims to a 2010 baseline and projects further reductions towards 2030. In the airline corpus, Delta roots its roadmap in a 2019 baseline and decomposes progress towards 2030/2050 milestones across operations, fleet renewal, SAF and removals, while British Airways similarly commits to net zero by 2050 and sets a SAF target for 2030 in line with the UK SAF Mandate.

Although the two sectors show comparable overall density of numerical anchoring, they display different orientations. RAIL's quantitative benchmarking markers amount to 6.73/1k (n=37), while AIR's target/performance metrics amount to 6.13/1k (n=68). Network Rail's low-emission pages compare MtCO<sub>2</sub>e across modes, contrasting rail totals with those of cars/taxis and aviation, and Amtrak similarly deploys per-passenger-mile efficiency figures and comparative

emissions claims against driving and domestic air travel. In AIR, Delta specifies intensity-based targets (e.g. a percentage reduction by 2035 from a 2019 base year) and reports Scope-linked values, while British Airways repeatedly quantifies SAF penetration and lifecycle emissions reductions. Importantly, the two sectors mobilise quantification with different discursive emphases. Largely, airline quantification is more strongly trajectory-based, projecting forward from an explicitly stated baseline towards future targets, whereas railway quantification more often foregrounds present and past performance through comparative benchmarking. This contrast is visible in AIR's baseline-and-milestone formulations, which repeatedly anchor commitments to a specific reference year and a sequence of future targets (e.g. "from a 2019 base year", with milestones set for 2030, 2035 and 2050), as opposed to RAIL's reliance on historical and cross-modal comparison frames that emphasise measured performance over time (e.g. "two MtCO<sub>2e</sub> in 2016 – the same as in 1990", and claims of being "46% more energy efficient than travelling by car and 34% more than domestic air travel").

A further layer of evidential transparency is provided by external validation and awards, again with a clear sectoral skew in how validation is made visible and what it is used to certify. In RAIL, explicit validation cues are present at moderate density (external validation 1.82/1k, n=10), with third-party endorsements framed in overtly reputational and procedural terms (e.g. EcoVadis recognition; SBTi verification). AIR also mobilises validation, but often folded into a wider procedural/verification cluster (procedural standards & certification 2.25/1k, n=25) and, in many cases, tied to the verification of emissions inventories, credits and accredited schemes. In these contexts, *certified* and related forms function as key evidential nodes, signalling that at least some claims are anchored in external assessment rather than resting solely on corporate self-report, but the object of validation is often more narrowly defined in AIR (data, inventories, credits) than in RAIL (procedures, ratings, system-level benchmarking).

Considered together, these patterns show that AIR and RAIL achieve evidential transparency through different, though comparable, anchoring repertoires. Rail discourse relies more heavily on legal and quasi-legal devices that foreground routinised measurement and benchmarking, whereas airline discourse places greater weight on framework- and policy-oriented architectures that organise commitments as disclosure-driven pathways towards future milestones. In both corpora, transparency is performed less through explicit

statements of duty than through the visibility of evidential scaffolding that renders commitments traceable and, in principle, contestable, without necessarily converting them into immediately enforceable obligations.

## **5. Conclusion**

This article has examined how major airline and railway operators construct environmental commitments on their corporate websites, showing how regulatory constraints and technical data are recontextualised as public-facing responsibilities that are evidentially supported and widely acceptable, yet rarely crystallised as enforceable duties. Specifically, airline discourse foregrounds future-oriented technological pathways and global framework alignment, whereas railway discourse foregrounds measurable present performance and system-level benchmarking. Treating transparency as an evidential practice rather than a binary property, the study combines corpus-informed description with systemic-functional and legal-linguistic perspectives to clarify how environmental governance knowledge is repackaged for hybrid public audiences.

To this extent, transparency and sustainability in this domain remain very much “in the making”. Credibility hinges less on explicit statements of legal obligation than on the density and accessibility of evidential anchors that render commitments publicly traceable and, at least in principle, contestable. Environmental responsibility is salient in both sectors, but it is configured through distinct trajectories. Airline websites foreground long-term decarbonisation pathways in a hard-to-abate sector, whereas railway websites foreground a structurally low-carbon mode whose advantage is stabilised and amplified through cross-modal comparisons and system-level performance. Thematically, then, what becomes prominent does not simply reflect what matters environmentally; it also positions each sector within wider policy narratives about green mobility and transition pathways.

A second implication concerns accountability. Across both subcorpora, the lexis of commitment and strategic ambition systematically displaces the language of obligation. Responsibilities are framed as chosen trajectories rather than immediately enforceable thresholds, and are realised through prospective and capacity-oriented

modality, together with agency patterns that distribute action across companies, sectors and technologies. From a legal-linguistic perspective, this matters because it weakens the visibility of a clearly bounded liable subject precisely where public discourse most strongly calls for accountable climate action.

A third implication concerns evidence. Both sectors perform intensive evidential work through legal and quasi-legal references, baselines and timelines, and third-party validation, yet these anchors typically function to make commitments appear credible and inspectable without fully crystallising into explicit legal self-binding. In other words, many of these evidential anchors function as credibility devices rather than as sources of directly enforceable legal obligation.

Acronyms and scheme labels operate as compressed governance signals, condensing complex regulatory and reporting regimes into positively loaded shorthand that displays alignment and evidential robustness while keeping the scope and enforceability of commitments comparatively open.

More broadly, the linguistic framing of environmental responsibility on institutional websites functions as a subtle form of governance, insofar as words, genres and evidential cues help organisations define what counts as a legitimate environmental obligation, what qualifies as proof of compliance, and how responsibility for climate action is distributed across actors, sectors and technologies. In relation to this wider evidential logic, the findings also complement related work on airline CSR communication on LinkedIn (Notari, in press), pointing to continuity in how the evidential “cost” of transparency is managed across platforms, even though corporate websites afford more stable, report-like forms of disclosure.

This study is not without limitations. The corpus is restricted to English-language website texts from eight operators (2023–2025) and excludes other genres such as stand-alone sustainability reports and stakeholder-generated discourse. It also focuses on textual realisations of transparency without triangulating these findings with reception data or stakeholder perspectives. Future research could extend the analysis across languages, transport modes and genres, and integrate corpus-based findings with audience-oriented approaches examining how different publics interpret, trust and contest environmental commitments online.

## Conflict of Interest Statement

The authors declare no conflicts of interest to disclose related to this manuscript. If any conflicts arise in the future, the authors will promptly inform the journal.

## AI Use Statement

The author declare that Artificial Intelligence (AI) tools were used only for limited assistance in language editing, grammar correction, formatting, or improving clarity of expression. The intellectual content, legal analysis, arguments, conclusions, and interpretation of law remain solely the responsibility of the author.

## References

- Anthony, L. (2019). AntConc (Version 3.5.8) [Computer software]. Waseda University. <https://www.laurenceanthony.net/software/antconc/>
- Biber, D., Conrad, S., & Reppen, R. (1998). *Corpus linguistics: Investigating language structure and use*. Cambridge University Press.
- Bondi, M., & Nocella, J. J. (2023). Building trust in the transport sector during the pandemic: A cross-cultural analysis. *Language and Dialogue*, 13(3), 309–335. <https://doi.org/10.1075/ld.00154.bon>
- Bondi, M., & Poppi, F. (Eds.). (2025). *Creating trust through transparency?* Special issue of *Iperstoria*, 25.
- Cacchiani, S. (2025). Communicating social equity and environmental protection on the corporate websites of Gap Inc. and House of Hermès. *Iperstoria*, 25.
- Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone.
- Engberg, J. (2013). Knowledge communication in legal contexts. *Hermes – Journal of Language and Communication in Business*, 51, 21–36.
- European Commission. (2021a). EU Emissions Trading System (EU ETS):

- Revision as part of the “Fit for 55” package.  
[https://www.europarl.europa.eu/legislative-train/package-fit-for-55/file-revision-of-the-eu-emission-trading-system-\(ets\)](https://www.europarl.europa.eu/legislative-train/package-fit-for-55/file-revision-of-the-eu-emission-trading-system-(ets))
- European Commission. (2021b). Fit for 55: Delivering the EU’s 2030 climate target on the way to climate neutrality. [‘Fit for 55’: delivering the EU’s 2030 Climate Target on the way to climate neutrality – European Sources Online](#)
- European Union. (2023). Directive (EU) 2023/959 amending the EU Emissions Trading System. <https://eur-lex.europa.eu>
- Falcone, M. (2025). Transparent communication in public transit: A cross-generic comparison of dialogic features of Metropolitan Transportation Authority’s website and Instagram. *Language and Dialogue*, 15(1), 81–104. <https://doi.org/10.1075/ld.00188.fal>
- Fombrun, C. J., & Van Riel, C. B. M. (2004). *Fame and fortune: How successful companies build winning reputations*. FT Press.
- Frischherz, B. (2010). *Metaphors of sustainability: A study of metaphors in the public discourse on sustainability*. BRASS Working Paper No. 62.
- Guthey, E., & Morsing, M. (2014). CSR and the mediated emergence of strategic ambiguity. *Journal of Business Ethics*, 120(4), 555–569. <https://doi.org/10.1007/s10551-013-2005-7>
- Halliday, M. A. K. (1994). *An introduction to functional grammar* (2nd ed.). Edward Arnold.
- Halliday, M. A. K., & Matthiessen, C. (2014). *Halliday’s introduction to functional grammar* (4th ed.). Routledge.
- Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. Continuum.
- Intergovernmental Panel on Climate Change. (2023). *Climate Change 2023: Synthesis Report*. IPCC. Retrieved from [IPCC AR6 SYR LongerReport.pdf](https://www.ipcc.ch/report/ar6/syr/longer-report/)
- International Civil Aviation Organization. (2022). *CORSIA implementation report 2022*. ICAO. <https://www.icao.int>
- Iori, M., & Falcone, M. (2025). Figurative language between transparency and persuasion: A multimodal analysis of Transport for London Instagram posts. *Iperstoria*, 25.
- Jin, B. (2022). A corpus-assisted study of vague language in corporate responsibility reports of the cosmetics industry. *Ibérica*, 43, 77–102.
- Kilgarrieff, A., Rychlý, P., Smrž, P., & Tugwell, D. (2004). The Sketch Engine. In G. Williams & S. Vessier (Eds.), *Proceedings of the 11th EURALEX International Congress* (pp. 105–116). Université de Bretagne-Sud.
- Kim, H., & Lee, T. H. (2018). Strategic CSR communication: A moderating role of transparency in trust building. *International Journal of Strategic Communication*, 12(2), 107–124. <https://doi.org/10.1080/1553118X.2018.1425692>

- Malavasi, D., & Nocella, J. J. (2025). Doing the locomotion: Aspects of trust and transparency in railway communication. *Iperstoria*, 25.
- Martin, J. R., & White, P. R. R. (2005). *The language of evaluation: Appraisal in English*. Palgrave Macmillan.
- Matten, D., & Moon, J. (2008). “Implicit” and “explicit” CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review*, 33(2), 404–424.
- Notari, F. (in press). The strategic construction of transparency in airline CSR discourse: A corpus-assisted multimodal study. *Hermes. Journal of Language and Communication in Business*.
- Palmer, F. R. (2001). *Mood and modality* (2nd ed.). Cambridge University Press.
- Poppi, F. (2025). Airlines’ emission disclosures: The fine line between opportunity and environmental inaction. *Iperstoria*, 25.
- Rayson, P. (2009). *Wmatrix: A web-based corpus processing environment [Computer software]*. Lancaster University.  
<https://ucrel.lancs.ac.uk/wmatrix/>
- Rossato, L., & Nocella, J. J. (2022). Risk and safety on cruise ships: Communicative strategies for COVID-19. In F. M. Federici (Ed.), *Language as a social determinant of health* (pp. 237–264). Palgrave Macmillan. [https://doi.org/10.1007/978-3-030-87817-7\\_9](https://doi.org/10.1007/978-3-030-87817-7_9)
- Šarčević, S. (1997). *New approach to legal translation*. Kluwer Law International.
- Schnackenberg, A. K., & Tomlinson, E. C. (2016). Organizational transparency: A new perspective on managing trust in organization-stakeholder relationships. *Journal of Management*, 42(7), 1784–1810. <https://doi.org/10.1177/0149206314525202>
- Schnackenberg, A. K., Tomlinson, E. C., & Coen, C. (2021). The dimensional structure of transparency: A construct validation of transparency as disclosure, clarity, and accuracy in organizations. *Human Relations*, 74(10), 1628–1660.  
<https://doi.org/10.1177/00187267209333>
- United Nations Framework Convention on Climate Change. (2015). *Paris Agreement*. UNFCCC. Retrieved from [https://unfccc.int/sites/default/files/english\\_paris\\_agreement.pdf](https://unfccc.int/sites/default/files/english_paris_agreement.pdf)
- van Leeuwen, T. (2008). *Discourse and practice: New tools for critical discourse analysis*. Oxford University Press.
- Zaupa, F. (2025). Constructing transparency in the car transportation sector: A corpus-based analysis of CSR disclosures. *Iperstoria*, 25.  
<https://doi.org/10.13136/22814582/2025.i25.1514>