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Net zero and *protection*: Framing environmental action in Corporate Social Responsibility reports of rail companies

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Abstract

Transport companies face the dual challenge of addressing transparency issues in communicating their potential role in environmental disasters while cultivating trust with stakeholders. Set against this background, this paper explores how Corporate Social Responsibility (CSR) reports showcase companies' awareness of both their role as social actors and their impact on the planet and the community. More specifically, it aims to investigate how environmental issues have been framed and described by companies operating in the rail sector from a linguistic and discursive perspective. From an eco-linguistics perspective, this paper examines trigger words that are used to frame issues related to the environment in CSR reports of rail companies. Specifically, we avail ourselves of a corpus consisting of CSR reports published in English between 2021 and 2022 by rail companies of both English-speaking and non-English speaking countries. An analysis of our corpus highlights recurrent phraseological units related to *zero* and *protection*, suggesting some basic frames of corporate environmental action. A close study of the lexico-grammatical patterns linked to such words shows different trends in the disclosure of reports from both a linguistic and discursive perspective. Results shed light not only on how companies represent themselves through the genre of CSR reports, but also on cross-cultural differences. Specifically, countries using *net zero* as their main objective present themselves as efficient while those preferring *climate protection* as caring. The study contributes to the further understanding of the role of corporate social responsibility in environmental action. By framing environmental protection and net zero not only as a mission but also as a corporate strategy, rail companies seem to reinforce their public image in an increasingly eco-conscious market.

Keywords: *environmental action, climate protection, genre of CSR reports, lexico-grammatical patterns, discursive strategies*



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Углеродная нейтральность и защита природы: экологические мероприятия в социальных отчетах железнодорожных компаний

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Аннотация

Перед транспортными компаниями стоит двойная задача — решать вопросы прозрачности, сообщая о своей потенциальной роли в экологических катастрофах, и одновременно укреплять доверие со стороны заинтересованных сторон. В связи с этим в данной статье рассматриваются отчеты о корпоративной социальной ответственности (КСО), которые демонстрируют осознание компаниями своей роли как социальных субъектов и своего влияния на планету и общество. Цель статьи — показать, как компании, работающие в железнодорожном секторе, формулируют и описывают экологические проблемы с лексической и дискурсивной точек зрения. С позиций эколингвистики в статье анализируются слова-триггеры, которые употребляются для трактовки вопросов, связанных с окружающей средой, в социальных отчетах железнодорожных компаний. Исследуется корпус отчетов о КСО, опубликованных на английском языке в период с 2021 по 2022 год железнодорожными компаниями как англоязычных, так и неанглоязычных стран. Анализ корпуса позволил выделить повторяющиеся фразеологические единицы, связанные с углеродной нейтральностью и защитой природы, предлагая некоторые рамки корпоративной экологической деятельности. Исследование лексико-грамматических моделей, связанных со словами-триггерами, выявило различные тенденции в раскрытии информации как с лексической, так и с дискурсивной точки зрения. Результаты показали, как компании представляют себя через жанр отчетов по КСО, и выявили некоторые кросс-культурные различия. В частности, страны, использующие углеродную нейтральность в качестве основной цели, позиционируют себя как эффективные, в то время как страны, предпочитающие защиту климата, — как демонстрирующие заботу об окружающей среде. Данное исследование вносит вклад в дальнейшее понимание роли корпоративной социальной ответственности в экологической деятельности. Формулируя защиту окружающей среды и углеродную нейтральность не только как миссию, но и как корпоративную стратегию, железнодорожные компании пытаются укрепить свой общественный имидж на рынке, который становится все более чувствительным к экологическим проблемам.

Ключевые слова: *экологическая деятельность, защита климата, углеродная нейтральность, жанр отчета о КСО, лексико-грамматические модели, дискурсивные стратегии*

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1. Introduction and background

Over the years environmental discourse has gained much interest in discourse analysis (Harré et al. 1999, Mühlhäusler & Peace 2006, Alexander 2009) with researchers investigating various thematic subdomains belonging to the broader umbrella term of ecolinguistics (Stibbe 2015). The growth in interest in this topic is certainly due to an increasing attention to the climate crisis, with 77% of the global greenhouse gas emissions being produced by the G20, namely the group of the world's largest twenty economies¹. United Nations (UN) climate change conferences have also grown in size and impact, becoming the key global forums for discussion of climate change matters. Following the increasing awareness of the rise in the Earth's temperature (which is 1.2 °C warmer than it was in the late 1800s), in 2015 world leaders signed the Paris Agreement, aiming to limit the global temperature to 1.5°C above pre-industrial levels, reduce emissions, and prevent the impacts of climate change². In 2019, European countries further strengthened the goals of the Paris Agreement by launching the European Green Deal with the aim of achieving carbon neutrality by 2050. This means an economy with no greenhouse gas emissions — also known as net-zero. National plans specifically address five dimensions of the energy union, namely decarbonization, energy efficiency, energy security, internal energy market research, and innovation and competitiveness. Moreover, at the beginning of 2020, EU countries submitted a long-term strategy to the United Nations Framework Convention on Climate Change (UNFCCC) on how they intend to achieve carbon neutrality from 2021 to 2030.

Within this context, corporations are under increasing pressure to reduce their carbon footprint. The transport industry is perhaps one of the greatest 'villains' listed as one of the main producers of carbon emissions. The industry responds to the needs of the modern economy and satisfies the growing demands for moving people and products across the globe, but in doing so, it contributes heavily to gas emissions and dramatically impacts the environment both directly and indirectly. Transport companies thus face the dual challenge of addressing transparency issues in communicating their potential role in environmental disasters (Peeters 2007, Becken & Hay 2012) while cultivating trust with stakeholders. Although rail is recognized as the most environmentally friendly form of transport compared to air or road, its extensive networks still exert enormous pressure on the environment, as for example with the construction and maintenance of infrastructures, the supply of

¹ These include Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States, and the European Union.

² <https://www.un.org/en/climatechange/what-is-climate-change>

energy, and habitat damage. Railway corporations are therefore subject to the same need as other corporations to provide increasing information on the strategies they adopt to reduce their environmental impact.

Set against this background, the present study focuses on how environmental issues are represented in the CSR (Corporate Social Responsibility) or sustainability reports of a selection of rail companies operating in two different geographical areas, namely Europe and North America. CSR reports are meant to disclose information on practices and results, while at the same time promoting a positive image of the company in the eyes of its stakeholders. They represent a shop window for corporations to highlight their contribution towards society, as well as the positive impact on their activities, specifically on the planet and on communities, and are therefore a key discourse resource to explore. These also come under ESG (Environmental Social Governance) reports, highlighting again the environmental and social commitment, as well as their governance and management aspects (Elkington 1994, Lee et al. 2016, Gao et al. 2021). Such reports abide by GRI (Global Report Initiatives) standards, which focus on economic, environmental and social categories (Jaworska & Nanda 2018). As shown by Fuoli and Beelitz (2023), however, they are also arguably influenced by landmark deals, such as the Paris agreement or the European Green Deal.

The present paper examines salient trigger words that are used to frame (Catenaccio, Garzone & Reisigl 2023, Hart 2023) issues related to the environment in CSR reports of rail companies. The analysis of environmental discourse has often brought to light discursive strategies that are used to frame (Entman 1993) issues surrounding the environment, so as to support specific interpretations or inferences. These interpretations play a pivotal role in shaping the construction of arguments within the debate. Framing involves selecting and drawing attention to particular aspects, whilst directing attention away from others. Ways of framing environmental issues can help identify common themes that operate across group boundaries or highlight how the different positions inevitably involved are actually negotiated in discourse. Through a combination of quantitative and qualitative approaches, we aim to identify the lexical choices, the phraseological patterns and the frames adopted by railway companies in representing environmental action and practices. In particular, we will answer the following research questions:

- RQ1: Which are the trigger words used by companies operating in the rail sector to describe environmental issues in CSR reports?
- RQ2: How are environmental issues framed through lexical choice?
- RQ3: How are lexical choice and framing related to the regional dynamics that shape corporate environmental policies?

The paper continues as follows: Section 2 provides a brief literature review, while Section 3 presents materials and methods adopted in this study. In Section 4.1 we provide an overview of the quantitative results which will be then followed by a lexical and phraseological analysis of the most relevant items (4.2, 4.3 and 4.4). In 4.3 and 4.4 we look in particular at the frames activated by the

phraseological patterns of two lexical items (*protection* and *zero*) that characterize — quantitatively and qualitatively — the discourse of companies operating in different institutional contexts. The paper will close with discussions (5) followed by conclusions (6).

2. Literature review

As corporate discourse on environmental issues has grown exponentially, a burgeoning number of studies on its features and functions have also been conducted under different theoretical and methodological frameworks. While the accounting literature often uses content analysis to assess the quantity and quality of disclosures (e.g. Pittrakkos & Maroun 2019), studies in the field of applied linguistics and communication have mostly privileged discourse and corpus approaches (e.g. Fuoli 2012, 2018, Lischinky 2015, Bondi 2016, Jaworska 2018). Discourse studies have often concentrated on issues regarding media discussions and narratives on climate change (Fløttum 2017, Norton & Hulme 2019) and ecology (Ponton 2023), but also on specific corporate genres like ESG/CSR/sustainability reports (Zappettini & Unerman 2016, Fuoli & Beelitz 2023, Fernández-Vázquez & Sancho-Rodríguez 2020).

In a recent systematic review of applied linguistic studies on sustainability discourse, Nervino Cheung and Chen (2024) highlight the centrality of environmental sustainability in the field and the salience of studies on keywords, concordances and collocations in language research, with somewhat greater emphasis on the analysis of metaphors in communication studies. The review also maps research traditions around the main frameworks of corpus linguistics, (critical) discourse analysis, multimodality, ecolinguistics and rhetoric, while noting that ecolinguistics has not been adapted as much as expected (Nervino, Cheung & Chen 2024: 877), given the centrality of environmental issues in ecolinguistics.

Approaches to ecolinguistics, on the other hand, are not limited to discourse on the environment or environmental issues: they rather represent an approach to the study of language and its use that is informed by ecology. They therefore vary widely, including both studies on the ecology of languages and studies on discourse in an ecological perspective (e.g., Ponton 2023). Discourse approaches — which Penz and Fill (2022: 234) denominate Ecological Discourse Analysis (EDA) — emphasize “the role of language in dealing with (aggravating or solving) environmental problems by pointing out the connection between language and ideologies”. This, in turn, includes both an analysis of ecological discourse and an ecological analysis of discourse: the text-critical and the system-critical perspectives, as defined by Fill and Mühlhäusler (2001).

Lexical and phraseological choices often play a major role in studies that combine discourse and corpus approaches, as well as in explicitly ecolinguistics studies. Seminal work by Halliday (1990, later published as 2001) has shown that the lexico-grammatical features of language (and scientific discourse in particular)

can be related to specific ideologies: the presence of mass nouns in the language system may for example suggest that resources are not limited; using *growth* as the positive term and *shrink* as the negative may support a philosophy of ‘growthism’. In a revisitation of Halliday’s work, Law and Matthiessen (2023) account for the various changes in expressions referring to global warming, such as *climate change*, *climate emergency*, *climate crisis*, or even *climate breakdown*, with their different implications. Researchers have shown keen interest in the way keywords such as *climate* and *net zero* have been framed (Pollach 2018), for instance, through an analysis of the discourses surrounding “climate change” and “climate emissions”.

Lexico-grammatical choices are thus often studied in corporate discourse to explore the ideology behind them, with critical perspectives often focusing on how companies use marketing and greenwashing strategies (Alexander 2010, 2018) to legitimate their action, by framing environmentalism in terms of market economics. Special attention has been paid to how issues of climate change are framed. Jaworska (2018), for example, shows how the use of hedging strategies and forward-looking expressions frame the ideology of climate change in corporate communication, by increasingly emphasising the notion of risk in ways that portray climate change as an unpredictable agent. Furthermore, through a topic-modelling corpus-based discourse analysis, Jaworska and Nanda observe the shift from climate change as “an object” to a “destructive and uncontrollable agent” (2018: 395). By concentrating on a case study of three major energy companies and their lexico-semantic choices surrounding climate, Dahl and Fløttum (2019) show how climate change is framed as a business responsibility, a business risk, and a business opportunity. Finally, qualitative frame analysis has been used to uncover how companies juggle the need to prove their contribution to sustainability and their actual responsibility for carbon emissions (Megura & Gunderson 2022).

The role of the sociocultural context has also proved to be essential. Fuoli and Beelitz (2023) examine how corporate discourse has evolved following the Paris Agreement, showing that the expression ‘net zero’ is used to promote “a ‘green’ corporate ethos and safeguard corporate legitimacy while largely practicing business as usual” (382). In line with previous studies (Levy & Egan 2003, Kolk, Levy & Pinkse 2008), they also highlight the different roles that European countries and the US have played since the Paris Agreement, showing that while the US has a more moderate position towards carbon reduction, European countries are more decisive in reaching reduction goals.

Our own study aims to combine attention to lexico-grammatical analysis, frame analysis, and different institutional contexts.

3. Materials and methods

In order to investigate and compare how climate discourse is framed in the rail sector, we created two corpora consisting of Corporate Social Responsibility (CSR) reports issued between 2021 and 2022. As visible from Table 1, in order to carry out a comparative analysis, the first corpus consists of European Union rail

companies that have issued their report in English, while the second one groups together the CSR reports of companies operating in English-speaking countries outside the European Union.

Table 1. Rail companies and number of tokens of the corpora

EU countries		NON-EU English-speaking countries	
Companies	Tokens	No. texts	Tokens
<ul style="list-style-type: none"> – České dráhy (Czech Republic) – DSB (Denmark) – SNCF (France) – Deutsche Bahn (Germany) – Trenitalia (Italy) – Italo (Italy) – Latvijas dzelzceļš (Latvia) – Vy (Norway) 	322,282	<ul style="list-style-type: none"> – NSW (Australia) – Via Rail (Canada) – Kiwi Rail (New Zealand) – Amtrak (USA) – GTR (UK) – GWR (UK) – LNER (UK) – SWR (UK) 	149,713

Despite not being part of the European Union, Norway was included in the EU corpus for its Green Alliance with EU countries and its commitment to reinforce climate action and its environmental protection efforts, as well as its cooperation on clean energy and industrial transition.

For the first step of our analysis, we availed ourselves of AntConc Software tool (3.5.9) where we could generate two separate wordlists from the two corpora and select the first ten lexical items related to the environment and to environmental issues. A brief analysis of the convergences and divergences of the two corpora in the most frequent lexical items led us to focus on the word forms that distinguished the two corpora, paying particular attention to two words of interest: *protection* and *zero*.

We then carried out a concordance analysis of the selected words in a phraseological perspective (Sinclair 2004), paying attention to collocations, semantic preference (the tendency of the word to co-occur with words sharing some elements of meaning) and recurrent phraseological patterns. Attention to co-text and co-textual lexico-semantic patterns provides a solid basis for an analysis of how environmental issues are framed in the corpus and in the two corpora.

In the second stage of our analysis, we further explored the phraseology of the selected node words following Stibbe's (2015) environmental framing approach. In order to do so, we started with the definition of framing proposed by Stibbe (2015), namely "the use of a story from one area of life (a frame) to structure how another area of life is conceptualized" (47). Specifically, when exploring framing one needs to consider two aspects, the first is the so-called "source frame", which is the resource frame that is triggered by words belonging to another semantic field (e.g., *capital*, *stocks*, *resources*, *commodities* and *assets*). The second is the "target domain", which is what is being talked about: in this case, words related to environmental measures (Stibbe 2015: 53).

4. Results

In this section we explore our results first from a quantitative perspective (4.1), then from a qualitative one (4.2 and 4.3). The qualitative analysis moves from an observation of the phraseological patterns attested in the corpus, to an interpretation of their implications and rhetorical functions.

4.1. Wordlists

Table 2 shows separate wordlists for the two corpora [substitute comma with semicolon], specifically, for each corpus we selected the first ten lexical items related to the environment.

Table 2. The 10 most frequent lexical items related to the environment in the two corpora

EU corpus			Non-EU corpus		
Rank	Raw Frequency (pttw)	Lexical items	Rank	Raw Frequency (pttw)	Lexical items
56	587 (18.21)	<i>energy</i>	47	288 (19.23)	<i>sustainability</i>
64	526 (16.63)	<i>sustainability</i>	75	218 (14.56)	<i>emissions</i>
69	482 (14.95)	<i>emissions</i>	87	201 (13.82)	<i>sustainable</i>
76	433 (13.43)	<i>climate</i>	88	198 (13.22)	<i>environmental</i>
93	358 (11.10)	<i>sustainable</i>	117	158 (10.55)	<i>climate</i>
107	333 (10.33)	<i>environmental</i>	133	139 (9.28)	<i>energy</i>
140	287 (8.9)	<i>protection</i>	174	118 (7.88)	<i>carbon</i>
179	280 (8.68)	<i>green</i>	178	117 (7.81)	<i>environment</i>
184	235 (7.29)	<i>environment</i>	187	117 (7.81)	<i>waste</i>
342	143 (4.44)	<i>waste</i>	205	105 (7.01)	<i>zero</i>

As can be seen from Table 2, the two corpora have many lexical items in common, such as nouns and adjectives related to the environment (*environment* and *environmental*), sustainability (*sustainability* and *sustainable*), climate (*climate*), and emissions (*emissions*, *energy*, and *waste*). However, in the European corpus, we see the presence of *protection* and *green*, which are not present in the non-EU corpus. Conversely, non-EU companies seem also to pay attention to elements such as *carbon* and *zero*.

It is worth paying attention to the different frequencies of these words, to explore the extent and nature of their difference. As shown in Table 3 below there seems to be significant difference among these items. For instance, in the EU corpus *green* and *protection* appear to be around 7 times more frequent than in the non-EU one, while in the non-EU corpus *zero* and *carbon* are respectively around three and two times more frequent than in the EU one.

In the EU corpus, *green* refers mostly to the Green Bond programme or to the institutional principles recommended by EU policies (i.e., *Green Deal*), while *protection* seems to be the key aim of CSR discourse. In both the EU and non-EU corpus, *carbon* identifies a key problem that companies are facing, while *zero*

(referred to carbon emissions) identifies the main aim through a specific target: *net zero* is a global initiative³ whose aim is to achieve climate-neutrality by 2050, meaning that all countries are involved in the creation of a no greenhouse gas emissions' economy.

Table 3. Raw frequencies (pttw) of specific environment-related items in each corpus

Lexical items	EU corpus	Non-EU corpus
<i>Carbon</i>	120 (3.72)	118 (7.88)
<i>green</i>	280 (8.68)	18 (1.2)
<i>protection</i>	287 (8.9)	19 (1.27)
<i>Zero</i>	62 (1.92)	105 (7.01)

Despite some similarities in the two wordlists, it is thus worth pointing out that each list presents a different measure or approach to solve the environmental crisis, namely the general approach of (environmental/climate) *protection* for the EU and the specific target of *zero* emissions for the non-EU wordlist. We will therefore explore the use of these two words in more detail in sections 4.3 and 4.4. However, before doing this, it is worth providing the reader with a qualitative overview of *green* and *carbon*.

4.2. A brief overview of green and carbon

Looking closely at other uses of *green* in the EU corpus, we notice that when referring to Green Bond, *green* also collocates with business-related terms (i.e., *green investments*, *green loans*, *green(-bond) finance*) where the pre-modifier seems to be used as a substitute for the whole concept that lies behind this specific type of investment. In other cases, *green* is used a clear synonym for 'sustainable' and it precedes nouns referring to products such as, *ammonia*, *energy*, *fuels*, *hydrogen*, and *power*. It is interesting to point out that in some of these cases, *green* is followed by a further explanation: for instance, DB provides more detail on the *green sponge iron*: "an intermediate product for climate-neutral steel production". When used as a synonym for 'sustainable' or 'environmental' *green* also precedes nouns referring to strategies adopted to resolve climate problems such as *solutions*, *project*, and *logistics*.

Moreover, *green* appears in the slogans of the Norwegian and German rail companies, which respectively self-promote their trains with "Vy makes choosing *green* easy" and "This is *green*", highlighting their ethical choice. Here, *green* is used again as a synonym for 'sustainable', but with a more self-promotional tone, emphasizing their choice towards a more environmental-friendly transition. The Italian rail companies Trenitalia and Italo also use *green* in a self-promotional way to advertise their new types of trains: *Green Intercity* (in Italian 'Intercity Green'),

³ <https://www.un.org/en/climatechange/net-zero-coalition>

the *Green Alps* service, and EVO trains. In these cases, they are followed by further information which justifies and explains the use of *green*:

- (1) In the summer, the new *Green Intercity* started running. This train has been refurbished with a *special* external film and a *special* carriage with six bike spaces, recharging points, separate waste collection, family area and vending machine. *What is more*, the walls of carriage 3 display *messages on sustainability*, with details on the CO2 savings of travelling by train. (FS_Italy)
- (2) The award was assigned by Assologistica for the “*Green Alps*” service, an *environmentally-friendly* Italy-France link that carries by train a quantity of bottles of water equivalent to approximately 5,000 trucks a year, with *no CO2 emissions*. (FS_Italy)
- (3) The EVO trains are also “*green*”, as they are manufactured with *recyclable* materials and are designed in accordance with *eco-sustainability* criteria to reduce CO2 emissions. (Italo_Italy)

Despite the use of specific self-promotional language (e.g., *special*), both companies emphasize the sustainable features of their trains. Moreover, given that these two reports are a translation from the Italian one, it is likely that *green* is also used in the source language as a loanword and that it requires further explanation — which is why it is kept in the target text.

Promotion of sustainability is also achieved by Denmark and Germany with their *green mobility* and *green transitions* projects. In this case, *green* is preceded by verbs that indicate a journey towards sustainability, such as *contribute* and *promote*, and that are associated with areas of actions such as *climate protection* and *nature conservation*. Example 4 below shows how the use of the progressive form further corroborates the idea of transition towards an environmental-friendly solution.

- (4) DB is required to focus continuously *on reducing* the environmental impact so as to strengthen the train’s position further and thus contribute towards society’s *green* transition. (DB Germany)

Looking at the very few occurrences of *green* in the non-EU corpus, we notice that in 11 out of 18 cases they refer to community and social projects, such as *Green Building*, *Green Wall*, *Green Team*. In the remaining 7 cases, UK and Canadian companies use *green* as a synonym for ‘sustainable’, such as *green station*, *green travel*, and *green advantages*. The Australian company instead, uses *green* either to specify endangered species that need to be protected (e.g., *green frogs*), or to report their initiative of planting and increasing the number of trees.

The use of *carbon* is quite similar in both corpora. In the EU corpus it mostly used to indicate companies’ mission to contribute to a more sustainable environment or to report their impact (e.g., *carbon accounting*, *carbon disclosure*). With regards to sustainability goals, we find *carbon neutrality* preceded by verbs such as *become* and *achieve* or phrases such as *the path/the goal towards*, thus highlighting their mission. This is further confirmed by the use of *low(er) carbon*

alternatives/economy/footprints, preceded by *transition* or *create*. When *carbon*, on the other hand, is reported as a problem that needs to be solved, we find elements such as *carbon footprints* or *carbon emissions* preceded by quantitative verbs of reduction (i.e., *reduce*). Methods and practices related to the *carbon impact* are also visible from how companies report measures to monitor this, with elements such as *assessment*, *calculation*, *measure*, emphasizing their transparency on such issue.

Despite being relatively more frequent, in the non-EU corpus collocations of *carbon* are quite similar to the those in the EU one, but with less variation. Again, there is some emphasis on the process towards *lower carbon emissions*, which is anticipated by phrases such as *shift towards*, *transition towards*, and on its reduction (e.g., *reduce*, *decrease*). *Carbon neutral goals* and *carbon neutrality* are again preceded by verbs such as *achieve* and *pursue*. Moreover, companies operating in New Zealand, Australia, and the USA also report their *carbon footprint* through data and graphs with verbs showing trends (e.g., *Carbon footprint has fluctuated*), percentages on their *contribution*, and on their *performance*.

4.3. Focus on protection

When looking for the term *protection* in the EU corpus we found that of the 287 (8.9 pttw) raw concordances, only 117 were related to climate, environmental and biodiversity protection. On the other hand, in the non-EU corpus *protection* only appears 19 times, 14 of which are related to the environment and only present in the New Zealand, Australian and Canadian reports. This might be due to the fact that in these countries there seems to be a higher attention towards biodiversity, nature protection, and preservation.

While the few cases of *protection* in the non-EU corpus are related to nature (e.g., *protection and restoration of biodiversity and ecosystems/protection of biodiversity*, *ongoing protection of the natural environments*, and *sustainable protection of our natural environments*, *Environment Protection Authority*), in the EU corpus collocations and colligations of *protection* appear to be more varied. In the EU corpus, the word is mostly followed or preceded by environmental specifications: in the first case it is followed by the preposition *of* (e.g., *protection of water*, *protection of healthy ecosystems*), while in the latter it is preceded by nouns or adjectives specifying the nature of the protection (e.g., *greenhouse protection*, *climate protection*, *environmental protection*). In this case, protection issues are also used to provide further specifications of wider approaches to environmental issues (e.g., *sustainable management of environmental protection and energy resources*). The occurrences of *protection* within the environmental field also appear in combination with binomials, some of which combine different elements of environmental responsibility (e.g., *sustainable water and protection of water*, *environmental protection and emergency efficiency*), while others combine environmental with social issues or values (e.g., *social inclusion and environmental protection*, *safe rail operations and environmental protection*, *human rights and*

environmental protection, environmental protection and safety). This highlights the close link between environment, community and safety issues.

Climate protection, which appears 56 times and only in the German Deutsche Bahn report, is presented as an object that needs to be monitored (e.g., *measure our progress in climate protection*), as a means of defense (e.g., *climate protection measure*), or as something to be achieved (e.g., *climate protection goals/target/object*). Similarly to *environmental protection*, it also appears both in lists associated with analogous issues (e.g., *climate protection, nature conservation, resources conservation and noise reduction*) as well as with elements from different fields (e.g., *to tackle setting new standards for speed of construction, innovation, energy consumption and climate protection*). Additionally, *climate protection* is also preceded by *importance of*, highlighting its prominence.

Moreover, both *environmental* and *climate protection* collocate with nouns indicating something to reach, such as *goals* and *targets*, and are preceded by verbs and phrases of achievement (e.g., *achieve, meet, in compliance with, in line with, succeed*) or by verbs indicating the active role of the company in achieving such objectives (e.g., *contribute to ...*). Furthermore, *protection* is also preceded by action verbs (e.g., *provide protection against fluctuations, implement*) showing how companies are actively engaging in environmental issues.

Now, when it comes to the framing of protection in the European Union corpus, we notice the key role of ENVIRONMENTAL PROTECTION AS A SHIELD, a strategic defense against climate change (Example 5). Biofuel becomes an immediate *measure* to achieve *climate neutrality*: the target domain belonging to the environment is associated to the source domain of defense.

- (5) The use of biofuel is an immediate *climate protection measure* and an *important step towards the phase-out* of diesel and *achieving climate neutrality*. [DB_Germany]

Another frame, which has already emerged from the collocation analysis, is that of PROTECTION AS BUSINESS (Example 6–8). In this case, we have the target domain of *climate* and *environmental protection* linked to the source domain belonging to the economic field (e.g., *prerequisite, target, achieve, pursue*). Climate protection is addressed as a technical issue that needs to abide by certain regulations (i.e., *Federal Government and the EU*) and a *code* with certain *principles*. However, the use of *believe* in Example 7 also suggests that environmental protection is a positive value — listed among others — and an objective that can be achieved by following good praxis.

- (6) A strong rail system is therefore an essential prerequisite for *meeting the climate protection targets of the Federal Government and the EU*, because a *reduction in emissions in the transport sector cannot be achieved without a massive shift* in the mode of transport towards the climate-friendly rail system. [DB_Germany]

- (7) We believe that economic development, social inclusion and environmental protection *can be pursued* only through good sustainability governance. [FS_Italy]
- (8) Also, the code describes the basic principles of the Company in *environmental protection* and use of natural resources, *principles of fair business*, basic principles of information protection, as well as cooperation with customers, suppliers, and society. [LDZ_Latvia]

Overall, the presence of the use of ‘protection’ in the EU corpus shows attention paid to both climate and environmental issues. The collocation analysis highlighted a more varied use of ‘protection’ among the various EU companies under analysis, in contrast with non-EU companies where its use is mostly limited to Australian and New Zealander reports and in relation to the environment. The frame analysis of what seemed to be the most recurrent patterns shows some consistency with Dahl and Fløttum’s (2019) study presenting climate protection as business, which is also in line with the corporate move of “stating methods and practices” (Yu & Bondi 2017) that becomes an opportunity to prove stakeholders how well railway companies are able to face an event.

4.4. Focus on Zero

When looking at *zero* in both corpora, we notice that its frequency is much higher in the non-EU corpus with 105 hits (7.01 pttw) than in the EU corpus (62 hits, 1.92 pttw).

Starting from the EU collocations of *zero*, we notice that it mostly appears in combination with *emissions*, *CO2 emissions*, and is preceded by verbs indicating movements and transition (e.g., *drive towards*, *moving to zero by*, *switch to*) as well as by quantitative assessment verbs (e.g., *reduce*, *increase the usage of low/zero emissions*), and qualitative assessment ones (e.g., *improve*). In some cases, verbs are embedded within a commissive form of future, hence as a promise towards a zero-emission means of transport network. This is further corroborated by other modal verbs indicating the deontic aspect of this objective (e.g., *shall be*, *must*). The EU corpus thus shares an interest in the global net-zero target, even in a context that privileges the general aim of environmental protection.

The phrase *net-zero* itself appears only 6 times and collocates with the word *standard*, in line with the EU regulations, while it is preceded by verbs of compliance (e.g., *achieve carbon neutrality by 2040 with zero net emissions comply with the net zero standard*). *Net zero* also appears in noun phrases as a further specification of pollution reduction aims (e.g., *with a long-term zero-target set for 2050*). Additionally, it appears in an adjectival position, collocating with *emissions* through the use of hyphens (e.g., *net zero-emissions*), which altogether precede specifying nouns, referring to means of transport (e.g., *net zero-emission vehicles*), specific parts or elements of vehicles (e.g., *kilometers*, *lifting gear*, *technology*, *machinery*, *fuel*) and *local communities*. Moreover, *net zero* also appears in the

name of formal institutions created to regulate emissions, such as the case of Norway (e.g., *Zero Emission Institute*).

When exploring significant framings of *zero emissions/net zero*, we notice that, once more, the expressions are mostly related to business and to urgency. Example 9 shows how *zero emissions* are addressed as an *important* and *urgent initiative* which can lead to an actual result (*impact*).

- (9) *Few businesses have unlimited time and resources at their disposal and it is therefore important that we first focus on the initiatives that have the greatest impact — zero emissions are urgent!* [Vy_Norway]

ZERO EMISSIONS AS A BUSINESS STRATEGY is also visible in examples 10 and 11. Zero emissions are a target (*objective*) to be achieved within a certain deadline (*by 2030*) and through certain strategies (*via the..., methodologies*) which are presented through nominalizations of the procedures to be implemented (e.g., *the deployment of..., the electrification*) or in compliance with standards and regulations (e.g., *in accordance with*), highlighting a technical approach to the issue.

- (10) DSB's *objective* is *zero particle emission* from train engines *by 2030*. *This is to be achieved via the deployment of electric trains and requires that Banedanmark continues the electrification work on the rail network.* [DSB_Denmark]
- (11) *It defines methodologies for defining science based targets in accordance with the latest findings in climate science, and defines and promotes best practice for emissions reductions and net zero targets.* [DE_Germany]

With regards to the use of *zero* outside the European Union, there are 87 occurrences related to climate and environmental issues, as we discarded those regarding harm and fatalities. In most cases (60 hits), it collocates with *net*, where *net zero* appears as an important objective, as something that needs to be achieved and a top priority for countries (e.g., *our goal to become net zero business by.../ambition to reach net zero by 2050/reach our ambitious goal of net zero by 2045/to be net zero by 2050/goal of net zero carbon economy by/we drive for net zero carbon emissions*). *Net-zero* is also followed by nouns like *operations* and *projects* which give the idea that net-zero is part of an ecological strategy. This is further strengthened by the use of verb *develop* followed by *net zero commitment* and *net-zero guidelines* or by the phrase *our approach to net zero*, reinforcing the idea of a strategy and plan. *Net zero* also collocates with other expressions referring to environmental issues such as *climate resilience*, *decarbonization* and *climate commitment*. Phrases indicating a transition towards net-zero are also present in the corpus (e.g., *steps towards/path to net zero*), indicating a shift and work in progress towards the ultimate goal of carbon-zero emissions.

In a few cases, *zero* collocates with *waste*, *carbon*, *pollution*, and *emissions*. These are preceded by expressions of quantitative assessment (e.g., *reduce*

consumption to zero, maintain zero waste), or by phrases indicating a shift towards green emissions (e.g., *provide zero air pollutants, transition to zero-emissions vehicles*).

Looking at the recurrent phraseology of *net-zero*, we notice that it is often framed as a BUSINESS AND A SOCIAL MISSION. Example 12 shows how the New Zealand rail company aligns with government standards to achieve a *net zero carbon economy* by a certain deadline (*by 2050*). In this case, there seems to be a business collaboration between the private and the public sectors for a common mission and strategy. Example 13 shows how *net-zero* is framed as a STRATEGY, as something that the rail company is addressing according to existing *practices, codes, and standards*, in order to improve the inaccurate current regulatory codes. Net zero framed as a BUSINESS STRATEGY is also visible from examples 14 and 15 with the two UK rail companies taking *actions* to deliver and set their *goals* and launching strategies to become an actual *net-zero business*.

- (12) KiwiRail is committed to *supporting* New Zealand's goal of achieving a *net zero carbon economy by 2050*. [KIWI_RAIL_NZ]
- (13) *We are reviewing* existing internal engineering practices, *third-party codes and design standards and developing* Climate Resilient and *Net-Zero Design Guidelines*, because *current regulatory codes* that govern rail infrastructure design incorporate historical data that *does not accurately reflect future climate challenges*. [AMTRAK_USA]
- (14) It drives the *actions to deliver on our goals* and KPIs including *net zero* and *strengthening* our equality, diversity, and inclusion across the business [LNER_UK]
- (15) In 2021, *Go-Ahead Group launched its Climate Change Strategy* and *set a goal to become a net-zero business by 2045*. [GWR_UK]

Overall, net zero seems to have similar uses in both the EU and non EU corpora, where it is framed as a strategy. This might be due to the fact that the UN is a global coalition and that UN policies are something that involves all countries. However, while EU countries highlight the transition towards net zero as a process and aim to achieve stakeholders' trust by underscoring how they abide to regulations, non-EU countries mostly frame net zero as an object and target to achieve while emphasizing their own image of business efficiency.

5. Discussion

Results of this examination suggest some cross-cultural (or cross-regional) differences in the framing of environmental discourse. A first look at the two wordlists reveals a distinct attention to different elements adopted in the EU rail companies versus the non-EU ones, such as *green* and *protection* in the former, and *carbon* and *zero* in the latter.

The use of *green* in the EU corpus seems to be particularly interesting as it ranges from a financial/business field (e.g., Green Bond) to a more self-promotional one through which companies emphasize their sustainable and eco-friendly

approach towards the environment. On the other hand, both EU and non-EU companies show similar attitudes towards issues regarding *carbon*, which is mostly addressed as a problem that needs to be solved. Moreover, the two wordlists show different attention to the environmental measures to be adopted, namely an emphasis on the general aim of *protection* in the EU corpus and an emphasis on the specific objective of *zero* emissions in non-EU one.

Collocation and frame analysis of *protection* reveals a strong connection between CSR reports and EU regulatory frameworks, mentioning both environmental and climate protection. In this context, the framing of environmental protection often emphasizes the company's active role in mitigating climate change, positioning the company as an essential player in the larger political and economic effort to reduce emissions. This is also probably connected to why protection is frequently tied to regulatory goals, highlighting a commitment to achieve specific environmental targets in compliance with EU directives. From a rhetorical point of view, the emphasis on *protection* thus favours the image of a caring and compliant corporation.

The phrase *net-zero* emerges in both corpora but is particularly frequent in the non-EU corpus compared to the EU one. While European companies often present *net-zero* in terms of regulatory alignment and compliance with global and EU standards, non-EU companies frame it as more business-oriented goal. Net-zero is presented primarily as a corporate strategy aimed at long-term competitiveness, which needs to be achieved within specific deadlines. This framing emphasizes the role of corporate strategy and the competitive advantages associated with reaching sustainability targets, underscoring the importance of aligning with global environmental trends while also capitalizing on potential business opportunities. For these companies, environmental goals are framed not just as compliance issues but also as critical components of business resilience and innovation.

6. Conclusions

The study has explored how rail companies operating within and outside the European Union frame measures regarding environmental issues in their CSR reports. The procedures adopted for the analysis have moved from a lexical focus to a wider phraseological perspective, paying attention to collocations and semantic preferences. The combination of quantitative and qualitative methods has provided a useful sequence leading to the interpretation of how environmental measures are framed in corporate discourse. A comparative analysis of the data has then revealed regional similarities and differences among the companies, highlighting how they align with broader sustainability goals.

Overall, this small case study might contribute to the ongoing discourse surrounding the role of corporate social responsibility in environmental action. By framing environmental protection and net zero not only as a regulatory mission but also as a corporate strategy, rail companies seek to enhance their public image and legitimacy in an increasingly eco-conscious market. This rhetorical framing serves

to align corporate actions with the global climate agenda while reinforcing their legitimacy among stakeholders, including investors, consumers, and regulators.

The differences in framing between European and non-European companies, however, also underscore the distinct regional dynamics that shape corporate environmental policies. European rail companies, operating within the framework of the EU's ambitious environmental policies, tend to emphasize compliance and the urgency of achieving carbon neutrality. On the other hand, non-European companies, particularly those in English-speaking countries, frame environmental action as a competitive strategy and a business imperative that aligns with global climate goals. Ultimately, the different ways of framing environmental issues also construct different corporate identities that may characterize the expectations of stakeholders in the different regional contexts: corporations using *net zero* as their main objective present themselves as efficient while those preferring *climate protection* highlight their caring identity.

This analysis also suggests that the framing of “climate and environmental protection” and “net zero” is not merely a matter of linguistic choice but is deeply linked to corporate strategy, regional regulatory environments, and public perceptions of corporate responsibility. As such, future research could explore how these frames evolve over time, especially in response to changes in climate policy and corporate sustainability commitments. It would also be valuable to examine how companies in other sectors, particularly those outside the transport industry, use similar framing strategies to engage with the global sustainability agenda.

In conclusion, the study highlights how framing might play a significant role in corporate communication. The differences between European and non-European companies underscore the broader geopolitical and economic forces at play in shaping corporate environmental strategies, pointing to the need for ongoing dialogue and alignment between corporate goals and global environmental initiatives.

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References

- Alexander, Richard. 2009. *Framing Discourse on the Environment: A Critical Discourse Approach*. London/New York: Routledge.
- Alexander, Richard. 2018. Investigating texts about environmental degradation using critical discourse analysis and corpus linguistics techniques. In Alwin F. Fill & Hermine Penz (eds.), *The Routledge Handbook of Ecolinguistics*, 196–210. London/New York: Routledge.
- Becken, Susanne & John Hay. 2012. *Climate Change and Tourism. From Policy to Practice*. London/New York: Routledge

- Bondi, Marina. 2016. The future in reports: Prediction, commitment and legitimization in corporate social responsibility (CSR). *Pragmatics and Society* 7 (1). 57–81.
- Catenaccio, Paola, Giuliana Garzone & Martin Reisigl. 2023. Introduction. Dimensions of framing: Representation, cognition, interaction. *Textus, English Studies in Italy* 1. 7–24. <https://doi.org/10.7370/108616>
- Dahl, Trine & Kjersti Fløttum. 2019. Climate change as a corporate strategy issue: A discourse analysis of three climate reports from the energy sector. *Corporate Communications: An International Journal* 24 (3). 499–514.
- Elkington, John. 1994. Towards the sustainable corporation: Win-Win-Win business strategies for sustainable development. *California Management Review* 36. 90–100.
- Entman, Robert M. 1993. Framing: Toward clarification of a fractured paradigm. *Journal of Communication* 43 (4). 51–58.
- Fløttum, Kjersti (ed.). 2017. *The Role of Language in the Climate Change Debate*. Taylor & Francis.
- Fuoli, Matteo. 2012. Assessing social responsibility: A quantitative analysis of Appraisal in BP's and IKEA's social reports. *Discourse & Communication* 6 (1). 55–81.
- Fuoli, Matteo. 2018. Building a trustworthy corporate identity: A corpus-based analysis of stance in annual and corporate social responsibility reports. *Applied Linguistics* 39 (6). 846–885.
- Fuoli, Matteo & Annika Beelitz. 2023. Framing the path to net zero: A corpus-assisted discourse analysis of sustainability disclosures by major corporate emitters, 2011–2020. *International Journal of Corpus Linguistics* 29 (3). 361–388.
- Fernández-Vázquez, José-Santiago & Ángel Sancho-Rodríguez. 2020. Critical discourse analysis of climate change in IBEX 35 companies. *Technological Forecasting and Social Change*. 157.
- Fill, Alwin & Peter Mühlhäusler (eds.) 2001. *The Ecolinguistics Reader: Language, Ecology and Environment*. London: Continuum.
- Gao, Feng, Yubin Li, Xinjie Wang & Zhaodong (Ken) Zhong. 2021. Corporate social responsibility and the term structure of CDS spreads. *Journal of International Financial Markets, Institutions and Money* 74. 101406.
- Harré, Rom, Jens Brockmeier & Peter Mühlhäusler. 1999. *Greenspeak; A Study of Environmental Discourse*. Thousand Oaks: Sage publications.
- Hart, Cristopher. 2023. Frames, framing and framing effects in cognitive CDA. *Discourse Studies* 25 (2). 247–258. <https://doi.org/10.1177/14614456231155071>
- Mühlhäusler, Peter & Adrian Peace. 2006. Environmental Discourses. *Annual Review of Anthropology* 35. Available at SSRN: <https://ssrn.com/abstract=1081388> (Accessed 5 February 2025).
- Nervino, Esterina, Joyce Oiwan Cheung & Jiayi Chen. 2024. Charting the path of sustainability discourse research: A systematic review of applied linguistic studies. *International Journal of Applied Linguistics*. 862–883.
- Jaworska, Sylvia. 2018. Change but no climate change: Discourses of climate change in corporate social responsibility reporting in the oil industry. *International Journal of Business Communication* 55 (2). 194–219.
- Jarowska, Sylvia & Anupam Nanda. 2018. Doing well by talking good: A topic modelling-assisted discourse study of corporate social responsibility. *Applied Linguistics* 39 (3). 373–399.
- Law, Locky & Christian M.I.M. Matthiessen 2023. Revisiting Halliday's (1990)'New ways of meaning: The challenge to applied linguistics': What has changed and what still needs to be done? *Linguistics and the Human Sciences* 15 (3). 337–368.

- Kolk, Ans, David Levy & Jonatan Pinkse. 2008. Corporate responses in an emerging climate regime: The institutionalization and commensuration of carbon disclosure. *European Accounting Review* 17. 719–745.
- Lee, Eun-Mi, Hyun Jung Lee, Jae-Hyeon Pae & Seong-Yeon Park. 2016. The important role of corporate social responsibility capabilities in improving sustainable competitive advantage. *Social Responsibility Journal* 12 (4). 642–653.
- Levy, David & Daniel Egan. 2003. A neo-Gramscian approach to corporate political strategy: Conflict and accommodation in the climate change negotiations. *Journal of Management Studies* 40. 804–829.
- Lischinsky, Alon. 2015. What is the environment doing in my report? Analyzing the environment-as-stakeholder thesis through corpus linguistics. *Environmental Communication* 9 (4). 539–559.
- Megura, Matthew & Ryan Gunderson. 2022. Better poison is the cure? Critically examining fossil fuel companies, climate change framing, and corporate sustainability reports. *Energy Research & Social Science* 85. 102388.
- Norton, Cherry & Mike Hulme. 2019. Telling one story, or many? An ecolinguistic analysis of climate change stories in UK national newspaper editorials. *Geoforum* 104. 114–136.
- Peeters, Paul. 2007. The impact of tourism on climate change [Paper presentation]. *Policy dialogue on tourism, transport and climate change: Stakeholders meet researchers*, UNESCO, Paris, France.
- Pitrakkos, Panayis & Warren Maroun. 2020. Evaluating the quality of carbon disclosures. *Sustainability Accounting, Management and Policy Journal* 11 (3). 553–589.
- Pollach, Irene. 2018. Issue cycles in corporate sustainability reporting: A longitudinal study. *Environmental Communication* 12 (2). 247–260.
- Ponton, Douglas M. 2023. More than just a tree: Ecolinguistics and responses to the felling of ‘Hadrian’s tree’. *Russian Journal of Linguistics* 27 (4). 797–819. <https://doi.org/10.22363/2687-0088-36732>
- Sinclair, John. 2004. *Trust the Text: Language, Corpus and Discourse*. London; New York: Routledge.
- Stibbe, Arran. 2015. *Ecolinguistics: Language, Ecology and the Stories We Live by*. Routledge.
- Yu, Danni & Marina Bondi. 2017. The generic structure of CSR reports in Italian, Chinese, and English: A corpus-based analysis. *IEEE Transactions on professional communication* 60 (3). 273–291.
- Zappettini, Franco & Jeffrey Unerman. 2016. ‘Mixing’ and ‘Bending’: The recontextualisation of discourses of sustainability in integrated reporting. *Discourse & Communication* 10 (5). 521–542.
- Penz, Hermine & Alwin Fill. 2022. Ecolinguistics: History, today, and tomorrow. *Journal of World Languages* 8 (2). 232–253.
- Halliday, Michael A. K. 2001 [1990]. New ways of meaning: The challenge to applied linguistics. In Alwin Fill & Peter Mühlhäusler (eds.), *The ecolinguistics reader: Language, ecology and environment*, 175–202. London: Continuum.

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