



An Emerging Climate Change or a Changing Climate Emergency?

A corpus-driven discourse study on newspapers published in England

Kajsa Fransson

English (linguistics)
Bachelor
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Supervisor: Maria Wiktorsson

Table of Contents

Abstract.....	3
1 Introduction & Aim	4
2 Background	5
2.1 Media discourse	5
2.2 Ecolinguistics and frames	6
2.3 Discourse analysis & Corpus linguistics.....	8
2.4 Previous studies	9
3 Design of the present study	10
4 Results & Discussion.....	13
4.1 Framings of climate change	17
4.1.1 Source frame: POLITICS	17
4.1.2 Source frame: WAR.....	18
4.1.3 Source frame: CAUSE.....	19
4.1.4 Source frame: PROBLEM	20
4.1.5 Source frame: PREDICAMENT	21
4.1.6 Source frame: THREAT	22
4.1.7 Other collocates	22
4.2 Framings of climate emergency.....	23
4.2.1 Source frame: POLITICS	24
4.2.2 Source frame: PROBLEM	25
4.2.3 Source frame: THREAT	26
4.2.4 Co-occurrence of frames.....	27
4.2.5 Other collocates	27
4.3 Comparison.....	28
5 Concluding remarks	30
References.....	31
Appendix I: Collocate frequency as number of occurrences for climate change	33
Appendix II: Collocate frequency as number of occurrences for climate emergency.....	34

Abstract

During 2019, it became increasingly popular for countries to declare a climate emergency – often on demand of their citizens. As such, the term ‘climate emergency’ had a significant increase in usage and got dubbed the Word of the Year 2019. In an effort to investigate discourses around ‘climate emergency’, I used a combination of corpus linguistics and discourse analysis with framing theory, as used in ecolinguistics, and compared with ‘climate change’; the UK parliamentary climate emergency declaration was used as the point of comparison. I compiled a corpus of almost 100,000 words (consisting of news articles) for each term in the time period Jan-Aug 2019 (four months before and after the declaration). The results showed that there were three overlapping frames (POLITICS, PROBLEM, THREAT) – as well as three unique frames for ‘climate change’ (WAR, CAUSE, PREDICAMENT). There were no differences in what frames occurred before and after the climate emergency declaration, but there were differences in the words included in the frames – both in terms of frequency and what words were used.

1 Introduction & Aim

In 2016, an Australian city became the first political entity to declare a climate emergency (Rennie, 2019) but it was not until the 1 May 2019 that the first national climate emergency was declared when a motion was passed in the UK parliament (Tutton, 2019).

Oxford Dictionary's word of the year 2019, despite its status as a compound, was 'climate emergency'. The motivation for the nomination was its increased prominence during 2019 in a corpus-study carried out in advance of the nomination. The runner-up list contains other climate terms and words connected to the concept of a negatively changing climate: climate crisis, climate action, climate denial, eco-anxiety, ecocide, extinction, flight shame, global heating, net-zero and plant-based ('Word of the Year 2019,' n.d.). 'Climate change' is used as a more neutral term (Luu, 2019) and was one of the few climate terms that did not increase during 2019 ('Word of the Year 2019,' n.d.). The word-of-the-year nomination indicates that climate is a well-talked about, and increasingly important, subject – especially during 2019.

A field that specifically highlights the importance of *how* climate is talked about is ecolinguistics where nature discourse is dissected in a number of ways. Framing theory is one concept that is used in ecolinguistics to uncover discourses (Stibbe, 2015, pp. 49-50); here, a *frame* is not a conventional picture frame but instead represents the concept of how certain words trigger certain cognitive frames in our minds (Stibbe, 2015, p. 48). Lakoff states that '[a]ll thinking and talking involves 'framing'' (Lakoff, p.71). Framing theory is conventionally combined with critical discourse theory, but has also been joined with the combinational approach of discourse analysis (DA) - and corpus linguistics (CL) in an effort to uncover discourses from environmental organisations (Brown, 2013). The combinational approach, DA and CL, has also been used for example to uncover power structures (Yating, 2019) and to uncover climate discourse in newspapers (Dayrell, 2019).

The aim of this paper is to investigate, and compare, the frames evoked around the terms 'climate change' and 'climate emergency' with the UK parliamentary climate emergency declaration (1 May 2019) as the divider. The investigation will be carried out through a combined discourse analysis and corpus linguistic approach in corpora consisting of articles from newspapers published in England four months before and after the climate emergency declaration. The corpora results will be analysed on the basis of media discourse theory and in the light of framing theory as it is used in ecolinguistics. Seeing how frames can be used to uncover discourses, and that there is – as stated by Lakoff (2010) – always a frame, the research questions this paper will try to answer are:

RQ1: What frames are created around climate change and climate emergency, respectively?

RQ2: What, if any, are the changes in the identified frames before and after the climate emergency declaration?

RQ3: What, if any, are the differences between the identified framings of climate change and climate emergency?

2 Background

In this section, I will start with a situational background on the climate emergency declaration followed by media discourse theory. I will proceed to ecolinguistics and framing theory followed by a presentation of the combinational approach of discourse analysis and corpus linguistics. Finally, I will present previous studies that relate to the present research but first, as promised, a situational background on the climate emergency declaration by the UK parliament.

In advance of the declaration, the activist group Extinction Rebellion staged numerous protests demanding that the Parliament would declare a climate emergency. Many cities and towns around the UK had already declared a climate emergency, as well as Scotland and Wales, which created pressure on the parliament (Brown, 2019). In the UK, there is not a joint definition of what a climate emergency declaration entails; most commonly, it means a promise to be carbon-neutral by 2025 but the UK government's goal ended up being to 'reduce carbon emissions by 80% (compared to 1990 levels) by 2050' (Brown, 2019). The situational background is crucial to the research, since discourses do not exist in isolation and should, when applicable, be connected to context. The next section will address media discourse theory in special relation to how to analyse media discourse in newspapers.

2.1 Media discourse

Media discourse does not only report events, it also plays a role in shaping the opinions of the world. Discourse/s can both refer to the linguistic elements (as in the language investigated) and to the beliefs about the world triggered by language use (Fairclough, 1995, p. 18); the plural discourses is usually used when referring to the second part of the definition, and will be the definition used in this paper – if nothing else is stated. Discourses can be triggered both unconsciously and consciously by the speaker/writer (Fairclough, 1995, p. 188), which include media discourse (as in the first sense of the definition).

Fairclough (1995) states that one of the main things to consider when analysing media discourses (in both senses of the word) are 'representations'. Representations are people's

worldviews concerning ‘questions of knowledge, belief and ideology’ (p. 5) and are created in all news articles (Fairclough, 1995, p. 5). All news articles are part of ‘the global media models of the world’ (Machin and Van Leeuwen, 2007, p. 39) that contributes as ‘one voice’ in shaping the beliefs of people about ‘the way the world works’ (p. 39) and also in creating a structure for what is a problem and what is necessary to solve it (p. 39).

Quotes are used regularly in news articles and, as Andsager (2000) argues, ‘the quotes incorporated into news stories reflect journalists’ subjectivity in creating an interesting account’ (p. 590), which means that the representations formed within quotes are still a part of the news article as a whole. Representations, or discourses, exist – as with pretty much everything else – around the environment. One field that looks especially at this is ecolinguistics.

2.2 Ecolinguistics and frames

The field of ecolinguistics underlines the connection between language and the environment. Stibbe (2015) states that ‘the link between ecology and language is that how humans treat each other and the natural world is influenced by our thoughts, concepts, ideas, ideologies and worldviews, and these in turn are shaped through language’ (p. 2) which highlights that how climate is talked and written about, as a part of the natural world, influences how climate is thought of. In other words, the discourses that are triggered by language effect how we conceptualise climate. With this in mind, the field of ecolinguistics investigates underlying discourses through language patterns (Stibbe, 2015, p. 1).

One approach that is used within ecolinguistics to discover patterns is ‘frames’, which is based of Lakoff’s framing theory. Lakoff states that ‘we think in terms of typically unconscious structures called ‘frames’’ (2010, p. 71). In this paper, I use Stibbe’s (2015) definition of frames and framing where ‘a frame is a story about an area of life that is brought to mind by particular trigger words’ (p. 47) and ‘framing is the use of a story from one area of life (a frame) to structure how another area of life is conceptualised. (p. 47). Stibbe (2015) further explains these stories are ‘packages of knowledge, beliefs, and patterns of practice’ (p. 47); this means that frames might be thought of as world representations, since representations are defined, as earlier stated, as concerning ‘questions of knowledge, belief and ideology’ (Fairclough, 1995, p. 17). The ideology part is not stated in direct relation to framing since Stibbe (2015) defines ideologies more generally as ‘[t]he stories that underlie discourses’ (p. 23) referring to the same use of ‘story’ as in the definitions of frame and framing.

Frames can be non-metaphorical, in contrast to metaphors, since some frames are big enough to incorporate the concept that it is framing and is then seen simply as a specific framing of a concept (Stibbe, 2015, p. 64). For example, climate change is framed non-metaphorically as a ‘‘problem’, ‘predicament’, ‘moral issue’ or ‘environmental issue’... since these frames are broad enough to include climate change directly’ (Stibbe, 2015, p. 65). Sullivan (2013) supports this and states that frames exist in ‘both metaphoric and non-metaphoric language’ (p. 24). The dual nature of framing enables a larger scope of analysis, and incorporates all framings in relation to a specific concept instead of purely the metaphorical ones.

When identifying frames, the first step is ‘identification of the source frame and the target domain. The target domain is the general area being talked about, while the source frame is a different area of life that is brought to mind through trigger words (Stibbe, 2015, pp. 52-53).

During frame identification, it should be considered that ‘frames come in systems, a single word typically activates not only its defining frame, but also much of the system its defining frame is in’ (Lakoff, 2010, pp. 71-72). Sullivan (2013) exemplifies this in the REVENGE frame where the frame is triggered by revenge: ‘*Barbara took revenge on her husband for years of snoring*’ (p. 18).

Frames, such as the REVENGE frame, ‘include semantic roles’ (Lakoff, 2010, p. 71) and ‘relations between roles’ (Lakoff, 2010, p. 71). Semantic roles, also called participant roles and thematic relations, are the participants of the clause usually the subject/object, while the relation is what happens to these participants – generally the verb. Lakoff exemplifies this with the HOSPITAL frame where participants include DOCTOR and relations include OPERATING (Lakoff, 2010, p. 71). The semantic roles are different for each frame – as can be seen with REVENGE in contrast to HOSPITAL. The REVENGE frame includes the semantic roles of AVENGER and OFFENDER, as well as the frame element the INJURY (Sullivan, 2013, p. 18).

Some of these elements might be omitted, but it is still a frame even when all elements are not present (Sullivan, 2013, p. 18).

In sum, the identification of frames is used to uncover framing, which in turn can show underlying discourses that are being generated. One way of uncovering discourses is through a combined approach of discourse analysis and corpus linguistics, and is also the approach taken in this research, which will be presented next.

2.3 Discourse analysis & Corpus linguistics

In short, Corpus linguistics (CL) is a quantitative methodology that uses text data to reveal patterns in large bodies of text (Baker, 2006, p. 1) and discourse analysis (DA) is the analysis of language in ‘real contexts of use’ (Simpson, 2019, p. 5), where it ‘captures...the meaning and effects of language usage’ (Simpson, 2019, p. 5). This means that the combinational approach uses a large set of gathered data (a corpus), and computational techniques, to uncover discourses (Baker, 2006, p. 1).

Baker (2006) states that the definition of discourse analysis and critical discourse analysis is ‘sometimes rather blurred’ (p. 73), but Simpson et. Al. (2019) argues that the ‘critical’ usually gets added when the research pays attention to which ideologies this enforces and produces, often in relation to power structures (pp. 59-60).

Baker et al. (2008) use what they call a lighter version of CDA in their study where they incorporate situational context from the time of the corpus creation, an analysis of broadsheet vs. tabloid (p. 284) and CDA theories defined as certain ‘phenomena recognized in CDA’ (Baker et. al, 2008, p. 296); the phenomena are exemplified as including metaphor, which – as stated earlier – is included in the concept of frames and framing.

With a corpus that consists of newspaper articles that have different political affiliations and formats, no conclusions can be drawn about discourses on a political or format basis (Baker, 2006, p. 74) which means that ‘we can only talk about *newspaper discourses* in the broadest sense of the term’ (Baker, 2006, p. 74).

In my study, I use framing, a theory usually combined with CDA, but I do not look at power structures or separate in which newspaper a certain term occurs; hence, my study is a combination of CL and DA where the DA takes use of framing theory. That said, certain criticisms regarding the CDA and CL approach applies to my approach as well – especially the ones that address corpora – and should therefore be taken into account.

The potential weak points of a combined approach, as pointed out by Mautner (2009), are 1) decontextualization of data, which involves the non-existence of semiotic signs 2) corpus linguistics’ obsession with frequency, where she points out that ‘rare occurrences of a word can sometimes be more significant than multiple ones’ (Mautner, 2009, p. 44) and 3) that the fixed structure of big corpora ‘limits their usefulness for CDA’ (Mautner, 2009, p. 44). The problems that exist with a large corpus are mainly pointed out as an argument for a ‘purpose-built corpora’ (Mautner, 2009, p. 44).

Baker et. al. (2008) state that the kind of criticisms in 1) and 2) are built on a limited view

of CL where the studies ‘are of a descriptive rather than an interpretative nature’ (p. 279) and that the concordances assists with the necessary context for a deeper analysis (p. 279).

Concordances are a corpus tool that provides ‘a list of all of the occurrences of a particular search term in a corpus, presented within the context that they occur in’ (Baker, 2006, p. 71), Another corpus tool that are used in these kinds of studies is collocation. Collocation is ‘when a word regularly appears near another word’ (Baker, 2006, p. 94), and can be used to apprehend ‘meanings and associations between words which are otherwise difficult to ascertain from a small-scale analysis of a single text’ (Baker, 2006, p. 96) – usually ranked by frequency or stat. A word found by using collocation is called a collocate.

In sum, the combined approach has certain considerations but by using a purpose-built corpus where it is possible to contain situational context it should be useful to apply certain CDA theories – such as frames and framing - to the data in an effort to uncover discourses. Next, this paper will move into previous works that utilizes versions of this approach in different ways.

2.4 Previous studies

DA and CL has been combined by researchers both investigating multiple terms (Dayrell, 2019; Brown, 2013) and single terms (Yating, 2019).

Dayrell (2019) calls her method a discourse analysis and CL approach where her analysis is performed ‘in the light of available opinion polls on the public’s perception of climate change as well as Brazil’s national context and environmental governance’ (p. 149). Her corpus consists of newspapers where:

Texts were retrieved in full, irrespective of length or number of query words/phrases and their frequency within each. Thus, the corpus includes a wide variety of genres: news reports, articles, editorials and so on and texts vary in relation to the extent to which climate change is discussed. Such an approach broadens the scope of the analysis as it enables the researcher to examine any reference to climate change, even when it is not the main issue under discussion (Dayrell, 2019, p. 153).

Even if she investigates a concept and not a specific term, this is still relevant for individual terms – as more than one mention of a term can be used in the same article and that articles contain the investigated term when it is not the main subject; I took the same approach to the data when creating my corpora.

Yating (2019) did a corpus-assisted critical discourse analysis where she investigated the term ‘leftover women’ with only two synonyms (p. 374), since she wanted to investigate

discourses surrounding this specific expression; this means that when looking at a concept, for example Dayrell looks at the concept of climate, an array of words is usually examined but an investigation with a singular expression can be useful – when one wants to investigate that particular expression. Yating (2019) uses corpus together with CDA since she looks at what discourses, with special relation to power structures, are evoked around the term ‘leftover women’ (p. 372).

Yating (2019) structures her corpus analysis by starting from collocates with a minimum frequency of eight. Yating’s (2019) choice to sort on frequency instead of stat scores is ‘that language data (which is constrained by paradigmatic, syntagmatic and other elements) do not occur randomly’ (2019, p. 376) but as she states ‘the choices made for the collocational span and the minimum frequency of occurrence is subjective, but it resulted in a manageable...set of collocates’ (Yating, 2019, p. 376).

In addition to frequency, she sorted the collocates on five words to the left and five to the right, in her 236,254-word corpus, and then divided them into ‘function words and content words’ (Yating, 2019, p. 376). Function words are words such as pronouns, conjunctions, modals, determiners etc. that does not have lexical meaning but which create the grammatical context for content words, which contain lexical meaning, and are nouns, adverbs, main verbs and adjectives. After the division of content and function words, Yating (2019) does a qualitative analysis of the concordances of the content words (p.376).

Brown (2013) does a similar analysis, but starts out with keywords, using the British National Corpus as a reference corpus; this is probably explained by the fact that he investigates overall communication from two environmental agencies in contrast to Yating (2019) who looks at a singular term. From the keywords, he moved onto collocations – just like Yating (2019) – and states that the software can list the words that often appear together but has no idea *why* they appear together (Brown, 2013, p. 2466). Brown (2013) therefore, when looking for such things as ‘agents which/who are responsible for the causes’ (p. 2470), analysed concordances in the light of framing theory (Brown, 2013).

3 Design of the present study

The data consists of newspapers published in England, both national and regional, collected from NewsBank. NewsBank is a database that collects news articles from different news providers around the world. The articles are divided into four corpora each containing 90 articles. The four corpora were created by searching for ‘climate change’ the four months

before and after the climate emergency declaration, and then doing the same with ‘climate emergency’. The search in the NewsBank database yielded 11 000 hits for ‘climate change’ after the declaration. Hence, I narrowed it down to newspapers that had more than 100 articles following the logic that otherwise only one (or even none) of the article/s from those newspapers would be included since my corpora will contain roughly 100 articles each. This process left 15 newspapers, and to create equal corpora I took the 15 newspapers that had the most articles in the ‘climate emergency’ search. 10 of these newspapers overlapped, which means that there were 5 unique ones for each term. The total became 20 newspapers, since I wanted to use the same newspapers for the corpora. My initial plan was to collect 100 articles from each newspaper with an equal amount from each newspaper so that they would be comparable; this equals 5 articles from each newspaper per corpus (beforeEMERGENCY; afterEMERGENCY; beforeCHANGE; afterCHANGE). The Daily Star and the Sunday Times had to be removed because of lack of data for one of the corpora, which led to a total of 90 articles in each of the subcorpora. Five articles from each newspaper was taken by dividing the number of articles with five, and take, for example, every fifth depending on total amount of articles.

In the light of Dayrell’s (2019) argument presented in the previous studies section, full articles were used since it enables a larger scope. In some articles, there was more than one occurrence of ‘climate change’ or ‘climate emergency’. The amount of hits on climate change in beforeCHANGE was 184 times and 185 times was afterCHANGE which is 369 hits in totalCHANGE. ‘Climate emergency’ had 124 hits in beforeEMERGENCY and 125 hits in afterEMERGENCY which is 250 hits in totaleMERGENCY. These numbers will be used in calculating how often a collocate occur in comparison with the total occurrences of the terms in the corpora.

In table 2, the newspapers included in the corpora are presented. There is a discrepancy in the data in regards to the regional papers since they are almost exclusively tabloids, which is shown in table 2. Table 2 merely serve as a presentation of the build-up of the corpora and will not be used as a basis of analysis since the media discourse is treated as ‘one voice’ in accordance with Machin and Van Leeuwen (2007) outlining of media discourse.

The investigation excluded other words related to climate, since this study aims to investigate the new term ‘climate emergency’ and compare it to the more neutral term ‘climate change’. This will not allow for any general conclusions on climate discourse, and the possible findings will only relate to the two terms stated.

BeforeEMERGENCY and afterEMERGENCY will be used together and will then be called totalEMERGENCY; beforeCHANGE and afterCHANGE will be used together and will then be referred to as totalCHANGE; the structures of these are presented in table 1.

Table 1. *Structure of corpora*

Name	Word types	Word tokens	Newspapers	Articles	Articles per Newspaper
beforeEMERGENCY	6731	50438	18	90	5
afterEMERGENCY	7148	48720	18	90	5
beforeCHANGE	6909	43390	18	90	5
afterCHANGE	7361	50360	18	90	5
totalEMERGENCY	10185	99158	18	180	10
totalCHANGE	10627	93750	18	180	10

Table 2. *Newspaper name; Broadsheet/tabloid; Political affiliation ('Black and', 2016)*

Name	Broadsheet/tabloid	Political affiliation
The Guardian	Broadsheet	Left-wing
The Times	Broadsheet	Centre-right
The Daily Telegraph	Broadsheet	Right-wing
The Financial times	Broadsheet	Centrist
i: The paper for today	Broadsheet	Centre-left
The Journal	Broadsheet (regional)	Unknown
Daily Mirror	Tabloid	Left-wing
The Sun	Tabloid	Populist
The Express/Express on Sundays	Tabloid	Right-wing
Evening Standard	Tabloid	Unknown
Western Morning news	Tabloid (regional)	Unknown
Oxford Mail	Tabloid (regional)	Unknown
Bath chronicle	Tabloid (regional)	Unknown
Western Daily Press	Tabloid (regional)	Unknown
Dorset Echo	Tabloid (regional)	Unknown
Derby Telegraph	Tabloid (regional)	Unknown
Manchester Evening News	Tabloid (regional)	Unknown
Bristol Post	Tabloid (regional)	Unknown

The corpus tools that I used in my study are collocation and concordance. These were examined to uncover discourses and then analysed in the light of framing theory on a background of media discourse theory.

I started with collocation to identify words that might create a common frame. I based my collocation settings on Yating's (2019) study and used the span five words to the left and right, a min. frequency of 3 where the collocates were sorted on frequency in the program Antconc (Anthony, 2018). The frequency of 3 was chosen since my corpora is smaller, in comparison with Yating's (2019) corpus.

I removed the function words, and investigated the 50 most frequent collocates in the corpora totalEMERGENCY and totalCHANGE identifying collocates that seem to create a common frame. When the words were grouped, I used concordance analysis to see if the expected frame was actually generated by those words. I identified what participant role 'climate change' and 'climate emergency' takes on in the evoked frames. This method did not enable me to look at all framings of 'climate change' and 'climate emergency', since I am only investigating concordance lines based on the 50 most frequent collocates.

It is worth noting that the results on before and after the climate emergency declaration should be seen as a correlation not a causation and merely indicates what a declaration could change – there are of course a number of factors that might have inflicted a possible change in usage.

4 Results & Discussion

This section starts with a compilation of the total amount of articles that contains the terms 'climate change' and 'climate emergency' in Newsbank then move into the framing of climate change, where I outline the frames and present the frequency of the words that relate to each source frame sorted in the before, after and total corpora. After, the same will be done with climate emergency. There will then be a comparative discussion of the identified frames.

A first indicator of the usage of 'climate emergency' and 'climate change' is the amount of articles containing the term in the investigated time period when searched for in NewsBank (figure 1 and 2).

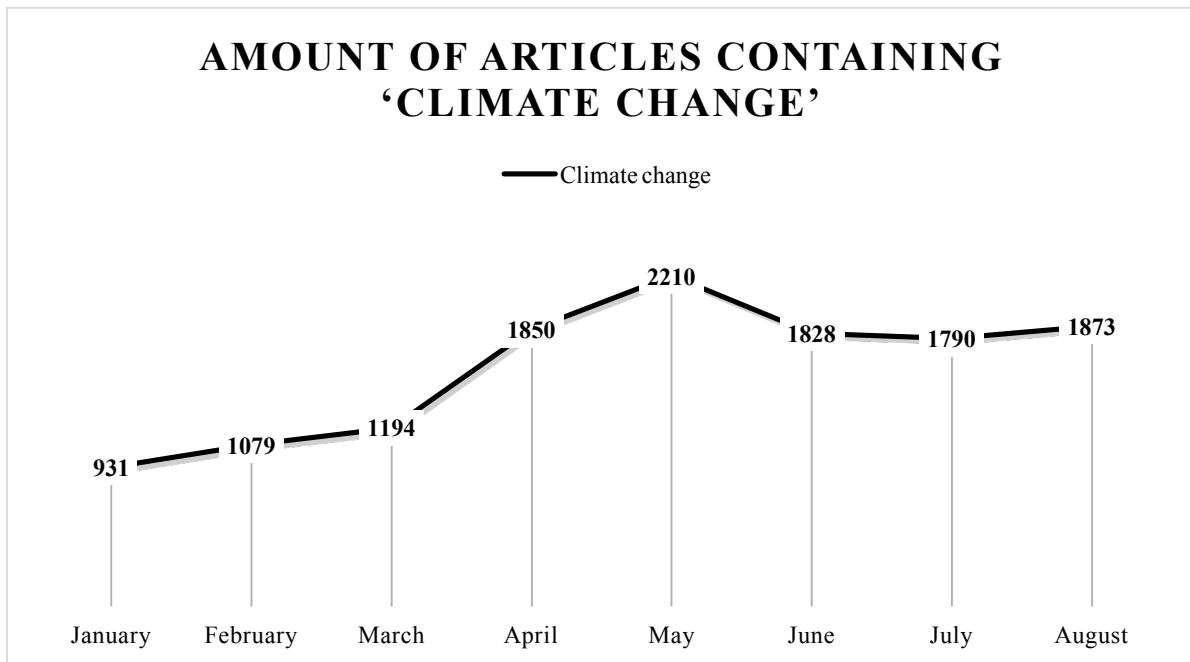


Figure 1. Total amount of articles in the 18 newspaper containing 'climate change'

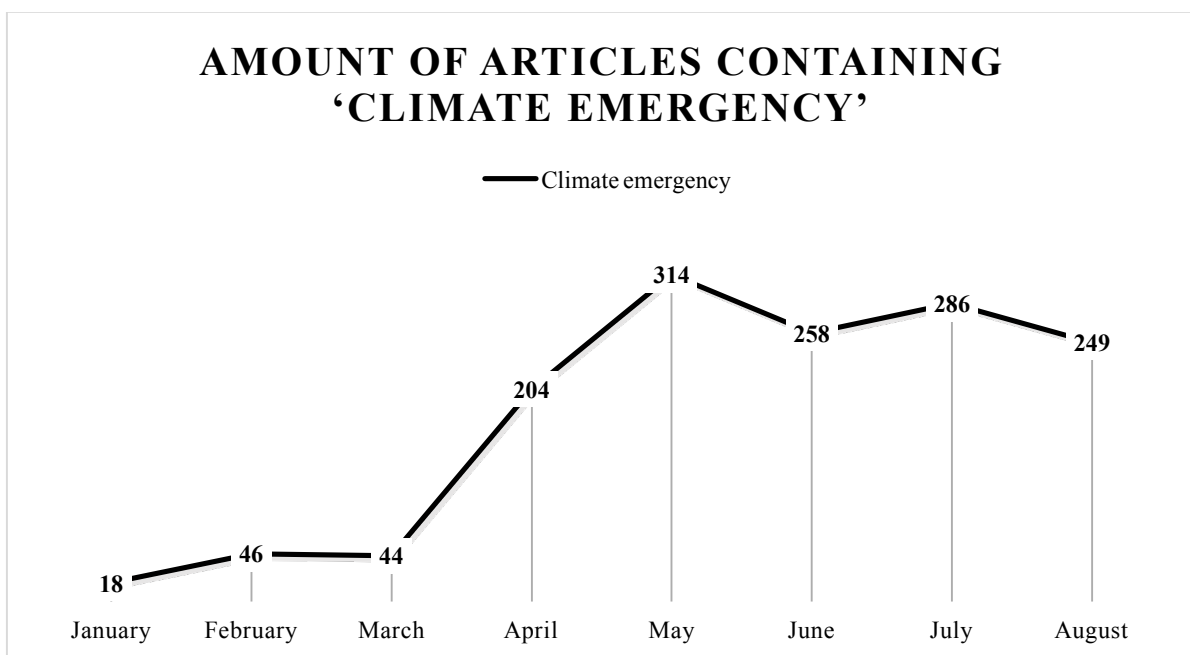


Figure 2. Total amount of articles in the 18 newspaper containing 'climate emergency'

The total amount of articles containing 'climate change' is considerably higher than the amount containing 'climate emergency'; a plausible explanation could be that climate change is a more established term. Noticeably though, the amount of articles containing 'climate emergency' increased significantly around the time of the climate emergency declaration (1 May) and stayed at the same level in the succeeding months. 'Climate change' had a similar progression with an increase (percentage wise not as much) around the time of the climate

emergency declaration and a slight decrease in succeeding months. The higher manifestation of articles might indicate a strengthened interest of climate news in general; this is merely a correlation though, but sets a base for the interest in and motivation for my research.

I followed the process outlined in ‘the design of the present study’-section, and the 55 most frequent collocates are presented in table 3 and 4 on the next page. The crossed-out collocates are those that, during the concordances analysis, was shown to not be related to ‘climate change’ and ‘climate emergency’ and were just in close proximity by chance. ‘Change’ and ‘emergency’ are most frequent since a search for a compound in Antconc identifies the second word of the compound as a collocate. The total collocate frequency cannot be compared accurately to individual frequencies of collocates, since some collocates co-occur. The frequency of a collocate is therefore calculated, in percentage, in reference to the total number of occurrences of the terms ‘climate change’ and ‘climate emergency’ in the different corpora, respectively; this provides a statistical frequency of how often a collocate occur with the terms and will be comparable even if the occurrences are not the same in the different corpora. The collocate frequency presented is only that of the word that during concordance analysis was shown to evoke said frame (the frequencies used for the calculations are available in appendix 1 and 2) – additional collocate occurrences of the word might be present in the corpora.

I will talk about increases and decreases only in the context of the present data since Sinclair (1991) states that, in regards to collocation, ‘no standard of statistical significance is claimed’ (p. 116).

Table 3. *Collocates totalCHANGE*

Nr.	Freq	Stat.	Collocate
1	379	7.11151	change
2	18	4.71213	action
3	17	6.78023	effects
4	13	3.90778	global
5	12	5.06360	protest
6	12	1.74168	climate
7	11	4.98612	impact
8	11	6.13499	threat
9	9	2.31672	people
10	8	5.81306	tackle
11	8	4.81306	protesters
12	8	3.40588	emissions
13	7	2.51462	world
14	7	2.95415	carbon
15	7	3.33662	government
16	6	3.83412	week
17	6	3.32167	take
18	6	4.03894	help
19	6	3.10141	energy
20	6	3.10141	event
21	6	4.39802	activists
22	6	3.06984	planet
23	5	5.48863	urgent
24	5	4.90366	term
25	5	6.85120	tackling
26	5	3.68127	reduce
27	5	3.87719	rebellion
28	5	5.07359	protests
29	5	2.83837	mr
30	5	4.61416	issues
31	5	4.85120	issue
32	5	5.01469	international
33	5	4.80057	greta
34	5	5.85120	facts
35	5	3.85120	extinction
36	5	4.13499	emergency
37	5	4.65855	debate
38	5	7.07359	combat
39	5	4.95811	challenge
40	4	2.21768	years
41	4	3.45398	warming
42	4	4.75166	thunberg
43	4	4.29223	real
44	4	4.81306	problems
45	4	7.01469	panel
46	4	6.75166	mitigate
47	4	2.78203	london
48	4	3.29223	group
49	4	3.05122	food
50	4	5.24916	fight
51	4	2.54221	council
52	4	6.16670	contribution
53	4	5.42973	concerns
54	4	5.52927	concern
55	4	6.16670	awareness

Table 4. *Collocates totalEMERGENCY*

Nr.	Freq	Stat.	Collocate
1	254	6.70387	emergency
2	60	6.79439	declare
3	29	6.60211	declared
4	29	4.14623	government
5	27	3.68248	council
6	17	6.95359	declaring
7	15	6.27551	declaration
8	14	3.02623	action
9	12	4.88946	tackle
10	10	2.69055	city
11	9	2.40926	uk
12	8	2.46173	world
13	8	3.61374	environment
14	7	0.11708	climate
15	6	5.14623	facing
16	6	0.96869	change
17	6	3.34872	act
18	5	3.60309	national
19	5	4.69055	motion
20	5	3.34478	meeting
21	5	2.27551	may
22	5	1.87463	london
23	5	2.35665	labour
24	5	2.66080	environmental
25	5	3.91796	dorset
26	5	6.69055	declares
27	5	3.08569	crisis
28	4	5.49415	reading
29	4	6.36862	prioritise
30	4	0.65438	people
31	4	1.95359	mr
32	4	4.70566	middle
33	4	5.49415	banner
34	4	4.86612	avoid
35	4	4.14623	address
36	3	3.68057	urgent
37	3	3.95359	town
38	3	4.45109	tackling
39	3	2.18100	support
40	3	2.89469	right
41	3	4.29062	raise
42	3	4.45109	radical
43	3	2.07912	protests
44	3	3.89469	panel
45	3	3.11228	month
46	3	3.40926	member
47	3	3.58435	mass
48	3	3.29062	hope
49	3	2.75719	good
50	3	4.36862	Following
51	3	3.11228	far
52	3	2.78366	face
53	3	3.83811	councils
54	3	2.83811	corbyn
55	3	3.18100	called

As outlined in the background section, the articles ‘one voice’, in accordance with Machin and Van Leeuwen (2007), as framing ‘climate change’ and ‘climate emergency’ in a particular manner; there is no division according to newspaper in terms of the frames. The frames are what Fairclough (1995) calls ‘world representations’ and reflects discourses connected to representations about how we think about the world. All frames are visible in more than one newspaper.

4.1 Framings of climate change

‘Climate change’ occurs 184 times in beforeCHANGE and 185 times in afterCHANGE which is a total of 369 times. In the data, there are six framings of climate change: POLITICS, WAR, THREAT, CAUSE, PROBLEM and PREDICAMENT, which will be addressed in this order. After, other collocates, that show a connection to climate change, will be address. These either do not create a comprehensive frame, are regularly marked by climate change or are used to show manner across frames.

4.1.1 Source frame: POLITICS

The POLITICS frame is triggered by *action* (4,88%), rarely by *addressing* (0,54%) and most commonly with *protests/protesters/activists* (8,40%). *Extinction Rebellion* and *government* occur with one of the other trigger words 100% of the time. ‘Climate change’ takes on the participant role of POLITICAL ISSUE.

The frame includes the participant role of AGENT in two ways depending on the verb preceding action. When *take action* is used, the agent is a political entity such as – in my set of data – *government* (example (1)) and *Ireland*. When *urge action* is used, the actor is *protests* (example (2)), *protesters*, *activists* and *Extinction Rebellion*. Climate change, as can be seen in both example (1) and (2), is the POLITICAL ISSUE that the government takes action on.

- (1) The *government* to *take urgent action* on climate change
- (2) Two *protests* in city centre *urge action* on climate change

The frequency of the related words can be seen in table 5. Ireland is not included since it does not have a frequency visible in the scope of this study, but is nevertheless the *government* of *Ireland* that is referred to.

Table 5. *Percentage frequency of collocates included in the POLITICS frame when compared to total occurrences of climate change*

Collocate	beforeCHANGE	afterCHANGE	totalCHANGE
action	5,43	4,32	4,88
addressing	1,09	0	0,54
protest/protests	5,98	3,24	4,61
protesters	3,26	1,08	2,17
activists	1,63	1,62	1,63
extinction rebellion	1,63	1,08	1,36
government	1,63	2,16	1,90

The frequency is 13,55% in totalCHANGE. In beforeCHANGE, it is 16,85%; this is not the same as the total of the trigger words since *activists* and *action* co-occur on one instance. The total in afterCHANGE is 10,27%. Drawing from the situational context presented in the beginning of the background section, this could be explained by the high amount of climate protests that occurred in advance of the climate emergency declaration – carried out by the activist group Extinction Rebellion.

4.1.2 Source frame: WAR

The WAR frame is triggered by *combat*, *battle* and *fight/fighting* and ‘climate change’ takes the participant role of PHYSICAL ENEMY. Usually, it would include the participant role AGENT but in my data this element is omitted which Sullivan (2013) argues is quite common. Instead, the element STRATEGIC MOVE is evident as can be seen in example (3) where slashing *incomes* is the STRATEGIC MOVE to *combat* the PHYSICAL ENEMY *climate change*. The frame is triggered by *combat*, and the STRATEGIC MOVE is defined as a *radical move*.

In example (4), the frame is triggered by *battle* and the STRATEGIC MOVE is to *transform fear into a mission*. The use of *mission* in this example also adheres to the WAR framing, since a *mission* is often a STRATEGIC MOVE in *battle*. The AGENT role is not omitted in this example, it is *we*, the AGENT, who *can* execute the STRATEGIC MOVE. War reflects a dire situation where extreme measures are taken, and this particular framing of climate change allows for a more extreme STRATEGIC MOVE element – as the situation is framed as more severe.

(3) *Incomes* would be slashed by as much as 75 per cent in a *radical move* to *combat climate change*

(4) To *battle* climate change, *we* can *transform fear into a mission* to be accomplished

Table 6. *Percentage frequency of the collocates included in the WAR frame in relation to the total amount of occurrences of climate change*

Collocate	beforeCHANGE	afterCHANGE	TotalCHANGE
combat	0,54	2,16	1,36
battle	1,09	0,54	0,81
fight/fighting	1,63	2,16	1,90
total	3,26	4,86	4,07

As can be seen in table 6, the WAR frame increase from 3,26% in beforeCHANGE to 4,86% in afterCHANGE and the occurrence in totalCHANGE was 4,07%.

4.1.3 Source frame: CAUSE

The CAUSE frame is triggered by the element EFFECT, which, in my data, is either *effects*, *impact* or *response*. In the CAUSE frame, ‘climate change’ takes on the role of CAUSE and the frame includes the element EFFECT and the participant AFFECTED ENTITY. AFFECTED ENTITY is sometimes omitted as in example (5) but is sometimes *the planet* as in example (6) or *the world* as in example (7). Sometimes, *energy* is seen as the AFFECTED ENTITY. To clarify, *the impact (EFFECT) of climate change (CAUSE) on the planet (AFFECTED ENTITY)*.

The CAUSE frame takes another form with *response* as can be seen in example (9); here, the *glaciers* are affected by the CAUSE but they are still the AGENT of the sentence and in order to respond in the first place it needs to be affected by something.

(5) It would also reduce the damaging *effects* of climate change

(6) a radical 'Green New Deal' to mitigate the impact of climate change on the *planet*

(7) climate change and *global* temperature increases will have a ‘devastating impact’ around the *world*

(8) the global *effects* of climate change

(9) his research focuses on glaciers and their *response* to climate change

Table 7. Percentage frequency (%) of the collocates included in the CAUSE frame in relation to the total amount of occurrences of climate change

Collocate	beforeCHANGE	afterCHANGE	totalCHANGE
effects	4,89	4,32	4,61
impact	1,63	4,32	2,98
response	0	1,62	0,81
Total trigger words	6,52	10,27	8,40
energy	1,63	1,08	1,36

Since the trigger words for the CAUSE frame is *effects*, *impact* and *response* the total occurrence of the CAUSE frame – based on table 7 - in totalCHANGE is 8,40%, and it saw an increase from 6,52% in beforeCHANGE to 10,27% in afterCHANGE. The CAUSE frame entails the global perspective (*global*, *world*, *planet*) 19,35% of the time (see frequency of these collocates in table 11).

4.1.4 Source frame: PROBLEM

‘Climate change’ takes on the participant role of PROBLEM. The PROBLEM frame includes the participant roles SOLUTION and PROBLEM, and is – in my data – usually triggered by *tackle/tackling* (example (10) and (11)). The SOLUTION in example (10) is straight-forward and tangible, *carbon tax*, while in (11) it takes a more abstract form: *ambitious plans*. The frame does not carry a direct agent, instead the SOLUTION is a way *to tackle* the PROBLEM and this is supported/backed/brought up by an AGENT; in example (10) it is *US economists* and in example (11) it is *MP*.

The frame is also, more rarely, triggered by the actual words *solving* and *problems* – as in example (12); here, *climate-change* is used to modify *problems* which means that *climate-change* does not take the PROBLEM role but is still framed as a PROBLEM.

Carbon and *emissions*, sometimes separated (example (10)) and sometimes as a compound, is the most common SOLUTION elements in the PROBLEM frame.

- (10) US economists led by Janet Yellen are uniting to back a *carbon tax* as the most effective and immediate way of *tackling* climate change.
- (11) MP to support *strong*, *ambitious plans* to *tackle* climate change
- (12) *solving* our climate-change *problems*

Table 8. *Percentage frequency (%) of the collocates included in the PROBLEM frame in relation to the total amount of occurrences of climate change*

Collocate	beforeCHANGE	afterCHANGE	TotalCHANGE
tackle/tackling	5,43	1,62	3,52
problems	1,09	1,08	1,08
emissions	3,26	1,08	2,17
carbon	1,09	2,70	1,90

Seeing that *tackle/tackling* and *problems* evoked the frame at different instances, as well as that *emissions* evoked the frame on one additional separate instance, the total percentage this frame was present around climate change was 4,88% of the times ‘climate change’ was present in totalCHANGE.

4.1.5 Source frame: PREDICAMENT

The difference between the PREDICAMENT frame and the PROBLEM frame is that PREDICAMENT does not carry the element SOLUTION (example (13) and (14)). The PREDICAMENT frame is constructed by transferring some properties of *issue* (example (13)) and concern (example (14)) onto *climate change* with the assistance of *is*. The severity of the PREDICAMENT is often enhanced with adjectives such as *important* (example (13)) and *major* (example (14)).

(13) this was a ‘once in a lifetime chance’ to show the world how *important* an *issue* climate change is.

(14) Climate change is a *major concern*

Table 9. *Percentage frequency (%) of the collocates included in the PREDICAMENT frame in relation to the total amount of occurrences of climate change*

Collocate	beforeCHANGE	afterCHANGE	totalCHANGE
concerns	1,63	0,54	1,08
issue	1,63	1,08	1,36
concern	1,09	0,54	0,81
help	1,63	1,08	1,36
Total	5,98	3,24	4,61

The PREDICAMENT frame decreased from 5,98% to 3,24%.

4.1.6 Source frame: THREAT

The THREAT frame is triggered by *threat*, and here climate change takes two different participant roles. It is either the THREAT (example (15)) or the ACTOR posing a *threat* (example (16)).

(15) the motion described climate change as ‘an existential *threat*’

(16) recognised the *threat* posed by climate change.

Table 10. *Percentage frequency (%) of the collocates included in the THREAT frame in relation to the total amount of occurrences of climate change*

Collocate	beforeCHANGE	afterCHANGE	totalCHANGE
threat	1,09	4,86	2,98

The THREAT frame increased from 1,09% in beforeCHANGE to 4,86% in afterCHANGE.

4.1.7 Other collocates

The collocates presented in this section are those ‘left-over’ but that still had some kind of connection to climate change. The collocates in table 11 are used in many different frames. *Urgent* is used to mark a word such as *action* and *threat*. *Reduce* is used together with *emissions*, *food waste*, and *effects*. *Mitigate* is used as a modifier before *climate change*. *Global*, *planet* and *world* adds a global perspective and occur most often with the CAUSE frame but also with the PREDICAMENT frame, the PROBLEM frame and with others.

Table 11. *Percentage frequency (%) of the collocates in relation to the total amount of occurrences of climate change*

Collocate	beforeCHANGE	afterCHANGE	totalCHANGE
reduce	2,17	0	1,08
urgent	1,09	1,62	1,36
mitigate	1,63	0,54	1,08
global	1,63	3,24	2,44
planet	1,63	1,62	1,63
world	2,17	0	1,08

Climate change is used to mark the collocates in table 12 and is referring to different panels, different groups, and the general climate change debate. *Greta Thunberg* is marked with *climate change activist*.

Table 12. *Percentage frequency (%) of the collocates in relation to the total amount of occurrences of climate change*

Collocate	beforeCHANGE	afterCHANGE	totalCHANGE
panel	1,09	1,08	1,08
group	1,09	1,08	1,08
debate	2,17	0,54	1,36
Greta Thunberg	1,09	1,08	1,08

The collocates in table 13 does not evoke or belong to a comprehensive frame, or occurs at a low frequency, but suggests the possibility of other framings.

Table 13. *Percentage frequency (%) of the collocates in relation to the total amount of occurrences of climate change*

Collocate	beforeCHANGE	afterCHANGE	totalCHANGE
issues	1,63	0,54	1,08
real	0,54	1,08	0,81
awareness	1,09	1,08	1,08
contribution	0	2,16	1,08

Issues is used only when grouping together climate change with other ‘issues’. *Awareness* is used in the construction *awareness of climate change*. *Contribution* is the most interesting of the ‘left-over’ collocates as it exists in the construction *contribution to climate change*, where the human population is pointed out as contributing to climate change; this is a direct opposing frame to the CAUSE frame where climate change is the cause of itself and the human factor is excluded.

4.2 Framings of climate emergency

The term ‘climate emergency’ occurred 124 times in beforeEMERGENCY and 126 times in afterEMERGENCY which is 250 times in totalEMERGENCY. In the data, there are three

occurring framings of climate emergency: POLITICS, PROBLEM and THREAT, which will be addressed in that order followed by co-occurrence of frames and other collocates.

4.2.1 Source frame: POLITICS

Climate emergency takes on the role of POLITICAL ISSUE. The POLITICS frame is triggered by *declare* (in different forms), *action* and *address* and contains the participant role AGENT. The AGENT is a political entity such as *the UK government* (example (17)) and *the Labour Party* (example (19)). Sometimes the AGENT is omitted (example (18)), but it is implicitly understood that only a political entity can declare a climate emergency.

(17) *the UK government declare* a climate emergency

(18) The *declaration* of a climate emergency is one of the primary demands of the student strike movement

(19) *the Labour Party* has *declared a national environment* and climate emergency

In light of the situational context, and the time of the data collection, the prominent POLITICS frame is quite expected. As Baker et al. (2008) states, the situational context for the time of data collection is highly relevant when DA is combined with CL, which is shown in the high occurrence of *declare* (in different forms) in table 14.

Table 14. *Percentage frequency (%) of the collocates related to the POLITICS frame in relation to the total amount of occurrences of climate emergency*

Collocate	beforeEMERGENCY	afterEMERGENCY	totalEMERGENCY
declare/s	38,71	11,11	24,80
declared	8,06	13,49	10,80
declaring	6,45	7,14	6,80
declaration	8,87	3,17	6,00
government	14,52	8,73	11,60
council/s	12,10	12,70	12,40
environment	2,42	2,38	2,40
environmental	3,23	0	1,60
national	3,23	0,79	2,00
motion	1,61	2,38	2,00
meeting	0	2,38	1,20
action	5,65	5,56	5,60
address	3,23	0	1,60
urgent	0	2,38	1,20
radical	0,81	0,79	0,80

Address co-occur with *action* 50% of its occurrence, with *declare* 25%, and alone 25%. *Action* occurs alone (21,43%) but also co-occurs with *declare/declaration* (35,71%), the PROBLEM and THREAT frame (28,57%). When only counting the co-occurrences with *declare/declaration* as one, the total of additional occurrences in beforeEMERGENCY is 3, and 7 in afterEMERGENCY. Therefore, the total occurrence of the POLITICS frame in totalEMERGENCY is 52,40%; the POLITICS frame saw a decrease from 64,52% in beforeEMERGENCY to 40,48% in afterEMERGENCY.

4.2.2 Source frame: PROBLEM

Climate emergency takes on the participant role PROBLEM. The PROBLEM frame for climate emergency is activated by *tackle/tackling*. The frame, just as for climate change, includes the element SOLUTION. In example (20) the SOLUTION is *promote policies* and in example (21) the SOLUTION is *creative solutions* where the actual word *solutions* is used.

(20) The UK should use its position in the G7... to *promote policies* to *tackle* the climate emergency

(21) *creative solutions* needed to *tackle* the climate emergency

As can be seen in table 15, the frequency of the frame increases from 1,61% in beforeEMERGENCY to 10,32% in afterEMERGENCY. The data shows that the SOLUTION element for climate emergency is more abstract. *Carbon emissions* is a frequent enough solution to appear as a collocate for climate change, while no SOLUTION element, in reference to climate emergency, had a high enough frequency to appear in the investigated collocates.

Table 15. Percentage frequency (%) of the collocates related to the PROBLEM frame in relation to the total amount of occurrences of climate emergency

Collocate	beforeEMERGENCY	afterEMERGENCY	totalEMERGENCY
tackle/tackling	1,61	10,32	6,00

4.2.3 Source frame: THREAT

The THREAT frame is triggered by *face/facing*, where climate emergency takes on the participant role of THREAT. In example (22), climate emergency is given some properties of *existential threat*.

The identification of a frame is not always straight-forward. In Example (23), *facing* could also be interpreted as *facing a problem*, but the extreme protest measure, *blocking roads and public transport*, indicates that the climate emergency might be seen more as a threat than a problem.

(22) When will our politicians start to do something meaningful and effective about what is arguably the greatest *existential threat* ever *facing* humankind? - the climate emergency and our continuing wanton abuse of the planet.

(23) The protesters from Extinction Rebellion who have been blocking roads and public transport in London this week try to justify their actions by claiming that the earth is *facing* a ‘climate emergency’.

Table 16. Percentage frequency (%) of the collocates related to the THREAT frame in relation to the total amount of occurrences of climate emergency

Collocate	beforeEMERGENCY	afterEMERGENCY	totalEMERGENCY
face/facing	2,42	4,76	3,60

4.2.4 Co-occurrence of frames

‘Climate emergency’ has co-occurring frames, something not discovered in the concordances for climate change. In example (24) and (25), both the POLITICS frame and the PROBLEM frame are present. *Declare*, *action* and *the government* generates the POLITICS frame in the co-occurrence of frames, while *tackle* and *problem* evoke the PROBLEM frame. In example (26), there might be a co-occurrence with the PROBLEM and THREAT frame, but, as pointed out in the previous section, *facing* can be used both with *problem* and *threat*. All these occurrences have already been accounted for in the total of the other frames.

(24) We need *urgent action* to *tackle* the climate emergency

(25) Thousands of schoolchildren...urge *the Government* to *declare* a climate emergency and take *action* to *tackle* the *problem*

(26) the Government is failing to *tackle* the climate emergency *facing* us all

4.2.5 Other collocates

The ‘left-over’ collocates for climate emergency do not create a coherent pattern as those with climate change, but does contain some interesting findings. The *middle* represents ‘in the middle of a climate emergency’, which is interesting since this construction did not occur in beforeEMERGENCY; this might indicate a change in tense for ‘climate emergency’ as a present problem instead of a future problem. *Panel* is used in the construction *climate emergency panel*, which only exists in the afterEMERGENCY corpus, and most likely relates to panels that were held following the climate emergency declaration.

Table 17. *Percentage frequency (%) of the collocates in relation to the total amount of occurrences of climate emergency*

Collocate	beforeEMERGENCY	afterEMERGENCY	totalEMERGENCY
crisis	3,23	0,79	2,00
prioritise	2,42	0	1,20
middle	0	2,38	1,20
support	0	2,38	1,20
raise	0	1,59	0,80
hope	2,42	0	1,20
banner	2,42	0,79	1,60
reading	2,42	0,79	1,60
world	1,61	0,79	1,20
panel	0	2,38	1,20

4.3 Comparison

In the previous section I outlined, in an effort to answer RQ1, the frames media – unconsciously or consciously – most frequently generated in the data based on frequency of collocates. I also touched upon the changes before and after, relating to RQ2, in the form of frequency changes within the frames. I will now address RQ3 by carrying out a comparison between the identified frames generated around ‘climate change’ and ‘climate emergency’.

The most evident different is the amount of frames each term generates in my data with the chosen methodology. ‘Climate change’ generates six frames, while ‘climate emergency’ generates three frames. There were no frames that did not occur both before and after, but there were differences in participants and manners within the frames. The three frames that occurred with both terms were POLITICS, PROBLEM and THREAT.

The POLITICS frame for both ‘climate change’ and ‘climate emergency’ contained the terms *action* (used in similar ways) and *protests*; in totalEMERGENCY *protests* is marked by *mass* 100% of the times. *Address* only appeared in beforeEMERGENCY and *addressing* only appear in beforeCHANGE.

‘Climate emergency’ had, which did not appear in the totalCHANGE, *declare* (different forms), *environment*, *environmental*, *motion*, *meeting*, *council*, *national* and *meeting*.

The PROBLEM frames were both triggered by *tackle/tackling*, but with ‘climate change’ it was also triggered by *problems* while *carbon* and *emission* were often the SOLUTION element. ‘Climate emergency’ did not have the same SOLUTION element often enough to become a collocate. Something quite interesting happened in the data after the climate emergency declaration. The PROBLEM frame, in relation to ‘climate emergency’ increased (1,61% → 10,32%), and ‘climate change’ decreased (7,07% → 2,70%); this could indicate that ‘climate emergency’ took on the role of the PROBLEM to a higher degree after the declaration, while the overall framing of climate as PROBLEM only increased marginally. Although, the SOLUTION element for climate emergency is more abstract than for climate change.

In the other collocates sections, ‘climate change’ showed a few patterns that might indicate additional frames – most interestingly the *contribution*-collocate in afterCHANGE. ‘Climate emergency’ had *middle* which only occurred in afterEMERGENCY, and indicates a change in tense for ‘climate emergency’ from future to present. Both these findings are interesting in terms of that the framings of ‘climate change’ and ‘climate emergency’ might be affected by the climate emergency declaration to become problems that are seen as present as well as caused by humanity; the frequency is very low though, and in any case it cannot be seen as something other than a correlation at this point.

The POLITICS frame for ‘climate emergency’ saw a decrease from 64,52% to 40,48%, and ‘climate change’ had a decrease from 16,85% to 10,27%. This is probably due to the situational context of the climate emergency declaration.

The frames for ‘climate change’ only account for 38,48% of all occurrences of ‘climate change’ in totalCHANGE while, when counting the co-occurrences between the frames as one occurrence, 60,40% of the occurrences of ‘climate emergency’ in totalEMERGENCY was represented. This means – since Lakoff (2010) states that there is always a frame – that some frames do not occur at a frequency visible in this study, that the frames are activated by different synonyms or that the trigger word for the frame is ‘climate change’ or ‘climate emergency’ in themselves. This might be due to the chosen methodology, since it is based initially on collocation frequency; the program used, Antconc, cannot recognise synonyms and a frequency-based measure of individual words – especially in relation to climate change were the findings represented less than 50% – might have missed interesting discourses around the terms. The frequency-based measure seems to have worked better with climate emergency seeing as it covers a higher percentage of the total occurrences. It takes time to construct a frame (Lakoff, 2010, p. 73) and a feasible explanation, for the fewer and more frequent frames evoked around climate emergency, might be that it is simply a newer term.

5 Concluding remarks

The motivation behind this paper was to investigate how media, unconsciously or consciously, frame the terms ‘climate change’ and ‘climate emergency’ as well as how these differ and if there were differences before and after the climate emergency declaration in the UK. The frames differed between the terms, and there were differences in the participants and manner within the frames as well as trigger words. There were instances where a frame increased or decreased after the climate emergency declaration.

The study has yielded some interesting results, but does have certain limitations. The data is a rather small selection, even for ‘purpose-built’ corpora. The combination of CL and DA together with framing theory is a rather novel approach, but the results suggest that it can yield interesting findings. In the case of climate change though, the percentage of the total occurrences actual involved in the analysis amounted to a rather small number (30%) and the approach overall seem to have worked better with climate emergency, which might indicate that the approach possible works better on newer terms than more established ones

It would be interesting to use the approach on other newly coined terms to see if the approach would yield sufficient findings there as well, but with a term such as ‘climate change’ another approach such as quantitative content-analysis might be more sufficient.

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Note:

A full record of the structure of the corpora is available upon request

Appendix I: Collocate frequency as number of occurrences for climate change

Collocate	beforeCHANGE	afterCHANGE	totalCHANGE
action	10	8	18
addressing	2	0	2
protest/protests	11	6	17
protesters	6	2	8
activists	3	3	6
Extinction rebellion	3	2	5
government	3	4	7
combat	1	4	5
battle	2	1	3
fight/fighting	3	4	7
effects	9	8	17
impact	3	8	11
response	0	3	3
energy	3	2	5
tackle/tackling	10	3	13
problems	2	2	4
emissions	6	2	8
carbon	2	5	7
concerns	3	1	4
issue	3	2	5
concern	2	1	3
help	3	2	5
threat	2	9	11
reduce	4	0	4
urgent	2	3	5
mitigate	3	1	4
global	3	6	9
planet	3	3	6
world	4	0	4
panel	2	2	4
group	2	2	4
debate	4	1	5
Greta Thunberg	2	2	4
issues	3	1	4
real	1	2	3
awareness	2	2	4
contribution	0	4	4

Appendix II: Collocate frequency as number of occurrences for climate emergency

Collocate	beforeEMERGENCY	afterEMERGENCY	totalEMERGENCY
declare/s	48	14	62
declared	10	17	27
declaring	8	9	17
declaration	11	4	15
government	18	11	29
council/s	15	16	31
environment	3	3	6
environmental	4	0	4
national	4	1	5
motion	2	3	5
meeting	0	3	3
action	7	7	14
address	4	0	4
urgent	0	3	3
radical	1	1	2
tackle/tackling	2	13	15
face/facing	3	6	9
crisis	4	1	5
prioritise	3	0	3
middle	0	3	3
support	0	3	3
raise	0	2	2
hope	3	0	3
banner	3	1	4
reading	3	1	4
world	2	1	3
panel	0	3	3