

# What if Nature Fought Back? Multimodal Metaphor in Green Non-Profit/Social Advertising

Assunta Caruso<sup>1</sup> & Ida Ruffolo<sup>1</sup>

<sup>1</sup> Department of Culture, Education and Society, University of Calabria, Rende, Italy

Correspondence: Assunta Caruso, Department of Culture, Education and Society, University of Calabria, Rende, CS, 87036, Italy.

Received: May 10, 2024      Accepted: July 26, 2024      Online Published: August 14, 2024

doi:10.5539/ijel.v14n5p1      URL: <https://doi.org/10.5539/ijel.v14n5p1>

## Abstract

Creating a conscious environment culture which highlights our commitment to protecting natural resources has been steadily increasing. The use of multimodal metaphor is a crucial rhetorical device for understanding the complexities of the global climate change crisis. More specifically the exploitation of multimodal metaphor in genres such as public awareness campaigns aims at triggering the audience's attention. In light of this, this paper investigates the use of multimodal metaphor in green non-profit/social advertising to understand to what extent these advertisements may be effective when promoting and encouraging change in behaviour patterns concerning environmental protection and climate change. For this purpose, a corpus of 130 multimodal advertisements containing metaphors on environmental awareness has been investigated. The study uses an adaptation of previous procedures designed for the identification of verbal, visual and multimodal metaphor (Alousque, 2014; Hidalgo-Downing & O'Dowd, 2023; Pragglejazz, 2007; Šorm & Steen, 2018; Steen et al., 2010). Results confirm the effectiveness of metaphorically conceptualising environmental themes such as climate change, global warming, and pollution. Moreover, the findings show that the pragmatic effect of metaphor used by non-profit organisations aims at creating a conscious environment culture, while the majority of the metaphors suggest a mixed or negative evaluation of environmental issues. Further research will include the investigation of metonymy in these campaigns.

**Keywords:** environmental communication, multimodal metaphor, green non-profit social advertising, evaluative potential, pragmatic effect

## 1. Introduction

“Our Common Future Report” released by the UN in 1987 describes sustainability as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987, p. 16). Ever since its publication problems such as climate change, pollution, environmental degradation, and resource depletion have heightened environmental awareness, as seen in the choices, perceptions and expectations of consumers towards eco-friendly products and services. The primary concern is not only discussing how to define and tackle these challenges, but, as outlined by the UN, actually implementing them in our daily lives and behaviours, as well as in governmental priorities and corporate strategies. What needs to be emphasized is that we are all collectively and individually part of the problem, and therefore must also become part of the solution.

If group action is required to counteract the effects of climate change, communication is therefore essential to fostering agreement and promoting constructive change. We need to modify the way we communicate about climate change when it comes to challenging topics if we want to make a difference as a group. The growing body of research in the field of environmental discourse has shown a significant increase in studies on the representation of climate change in dominant discourse (Fleming, Vanclay, Hiller, & Wilson, 2014; Fløttum & Gjerstad, 2017; Nerlich, Koteyko, & Brown, 2010), especially in the field of advertising.

Many discursive aspects have been examined, with narratives and metaphors in particular playing a key role as rhetorical techniques (Adger, Benjaminsen, Brown, & Svarstad, 2001; Dryzek, 1997; Hajer, 1995). In particular, metaphor is unquestionably regarded as a crucial instrument for comprehending a difficult and abstract subject, such as climate change (Shaw & Nerlich 2015). More specifically, the public can gain a clearer understanding of the complexities of the global climate change crisis and its connections through the visual representation of the

metaphor chosen. In fact, using visual metaphors in advertisements has been shown to simplify certain issues and enhance the creativity and attractiveness of the advertisement (Burgers, Konijn, Steen, & Iepma, 2015).

Indeed, academic studies in the field of green marketing and green advertising have increased, many of which have investigated multimodal metaphor used by profit-based organisations which promote green image and products (Kotler, 2011), while fewer studies have focused on non-commercial advertisements (e.g., Pérez-Sobrino, 2016a, 2016b, 2017; Pérez-Sobrino, Littlemore, & Ford, 2021).

Based on these premises, this paper investigates the use of multimodal metaphor in green social advertising in light of the fact that it is widely employed in various media to effectively understand complex environmental issues (Koteyko & Atanasova, 2016; Väliverronen & Hellsten, 2022). This paper adopts the definition of *green non-profit/social advertising* by Stöckl and Molnar (2017, p. 267), namely, “[...] non-commercial campaigns aimed at raising ecological awareness and thereby calling on the recipient to support social action or adopt an eco-oriented opinion.”

Particularly, the present study adopts both a verbal (Metaphor Identification Procedure *Vrije Universiteit*—MIPVU) (Steen et al., 2010) and visual (Visual Metaphor Identification Procedure—VISMIP) (Šorm & Steen, 2018) metaphor identification procedure. The full illustration of both procedures will be given in section 3.2. The study also draws on Hidalgo-Downing and O’Dowd’s (2023) protocol for the coding of multimodal metaphors and value, along with Alousque’s (2014) cognitive approach to address how environmental discourse is conceptualised in a corpus of green non-profit/social advertisements in order to understand to what extent the messages conveyed are inviting sustainable behaviour.

The project outlined in this paper aims at addressing the following research questions:

- 1) How is environmental discourse (e.g., climate change, global warming, etc.) conceptualised metaphorically?
- 2) Are metaphor source and target domains present in both visual and verbal modes?
- 3) What type of evaluative potential do the ads have?
- 4) What is the pragmatic effect of the ad, i.e. What message do the creators of the ads intend to convey?

The remainder of the paper is organised as follows: Section 2 provides a brief review of the relevant literature on the use of multimodal metaphor in green non-profit/social advertising with a focus on environmental communication. Then, in Section 3, the materials used for the study, as well as the methodology adopted, are presented. Section 4 illustrates the quantitative results of the study and then discusses some representative examples of the multimodal metaphors employed in the campaigns. The last section draws some tentative conclusions and suggests further lines of research.

## 2. Theoretical Background

### 2.1 Environmental Communication

Discourses regarding the perceived global environmental crisis have increased dramatically over the decades. Indeed, in recent years, climate change has become the main topic in environmental discourse. “Since the first reports were published by the Intergovernmental Panel on Climate Change (IPCC), established in 1988, climate change communication has been considered as a challenge” (Fløttum & Gjerstad, 2017). The language used to talk about the environment in general and climate change in particular, has played a crucial role in various genres and in different contexts, leading to a wide range of discursive varieties (Plastina, 2020). There has been an increase in studies on the representation of climate change in dominant discourse (Fleming et al., 2014; Fløttum & Gjerstad, 2017), as “the most threatening and wide-ranging expression of the environmental impact of human activity” (Carvalho, 2020, p. 104) and specifically of the usage of ‘climate emergency’ (Fransson, 2020), presenting nature at risk because of human actions (Cottle, 2000; Doyle, 2007; Hansen, 2010).

Yet, in order to understand environmental emergencies, in general, and the urgencies of climate change, in particular, it is necessary to investigate how climate change is made meaningful and is perceived both socially and culturally (Doyle, 2011). The understanding of climate change involves examining the discursive practices used to address these challenges. Indeed, the increasing concern with ecological and environmental issues over the last decades has brought with them a new public vocabulary and discourse for understanding and appropriating these developments, and for articulating public controversy, fear and hope. The fundamental assumption of environmental discourse analysis is that language not only reflects but also shapes our perceptions of the outside world and reality, and in this context, nature is examined as a contested concept (Hajer & Versteeg, 2005). Various discursive elements have been analysed since the emergence of this field in the early 1990s with particularly narratives and metaphors as rhetorical devices occupying a central role (Adger, Benjaminsen, Brown, & Svarstad,

2001; Dryzek, 1997; Hajer, 1995).

Indeed, metaphor is certainly considered an essential tool for explaining and understanding such a complex and abstract topic (see Nerlich & Koteyko, 2009; Shaw & Nerlich, 2015). Metaphor allows us to “talk and, potentially, think about something in terms of something else” (Semino, 2008, p. 1). According to Lakoff and Johnson’s theory of conceptual metaphor (1980), metaphors have an impact on our thoughts and how we see the world because our conceptual system is metaphorical in nature. For this reason, “metaphor selection is a highly controversial issue” (Hidalgo-Downing & O’Dowd, 2023, p. 232), since these choices can influence how people interpret certain concepts and also their behaviour (Koteyko & Atanasova, 2016; Semino, 2021). For instance, metaphors help to access complex and abstract areas such as scientific phenomena (Penz, 2017) as well as “‘frame’ the phenomena in question in particular ways, foregrounding some aspects and backgrounding others” (Semino, 2008, p. 132). In particular, metaphors are frequently used in the communication of crisis narratives within environmental discourses (Larson, 2011). There are well-known metaphors used to represent the tragic epilogue of nature such as ‘population bomb’, ‘the planet is a patient’, ‘carbon footprint’ and ‘creeping desert’, among others. As claimed by Charteris-Black (2011), metaphors are fundamental components of communication, and politicians and policymakers in particular are aware of the rhetorical power of metaphors.

The complexities of the global climate change crisis with all its implications and interconnections can be better understood by the public through the visual representation of the metaphor chosen. Much of what the public perceives as environmental challenges and problems is through mainstream media, and much of this communication is increasingly composed of visual representations (Hansen, 2017). The use of visuals and imagery makes climate communication more effective and it may aid in reducing the complexity and uncertainty of the issue (Bilandzic, Kalch, & Soentgen, 2017; Galafassi, Tàbara, & Heras, 2018; Lazard & Atkinson, 2015; Vu et al., 2020). As argued by Altinay (2017), visuals can draw attention to the message more intently and help to make it more memorable for the audience. However, although the use of images has been crucial for the construction of the environment since the 1960s, only relatively recently has it been the focus of research in academia (Hansen, 2017). In particular, the past two decades have “seen a welcome and much-needed growth in studies—from a range of disciplines—focusing on the visual” (Hansen, 2017, p. 179), and much of the research has been devoted to communication about climate change.

## 2.2 (Multimodal) Metaphor

There has been debate over the difficulties involved with “trying to communicate environmental issues that are both temporal (long term and developmental) and unseen (not always visible), through a medium that privileges the ‘here and now’ of the visual” (Doyle, 2011, p. 8). In climate change communication, the use of metaphor has been shown to be significant, yet remains relatively unexamined in visual messages (McQuarrie & Phillips, 2005). Studies have shown that utilizing a metaphor is more convincing than a standard verbal argument (Sopory & Dillard, 2002), and that representing a metaphor visually is more effective than using a textual metaphor (Jeong, 2008).

Recent research (Doyle, 2011; Nicholson-Cole, 2005; O’Neill & Hulme, 2009; Smith & Joffe, 2009) focuses on gaining insights into the ways in which visual images are used when reporting on and illustrating the negative effects of climate change (Cunningham, Foxcroft, & Sauntson, 2022), with the intention of evoking feelings of danger and threat, in the attempt of prompting emotional alignments, leading to advocacy (Bilandzic et al., 2017).

In multimodal contexts, the use of shocking advertisements (Pérez-Sobrino, 2016a) is a growing phenomenon, although the findings regarding the effectiveness of such advertisements remain mixed. Shockvertising is employed to deliberately induce feelings of fear and “highlight controversial social and environmental issues in a way that may more successfully engage the audience” (Hidalgo-Downing & O’Dowd, 2023, p. 232).

As for the definition of multimodal metaphor, this paper follows the one provided by Forceville (1996, 2007, 2008, 2009) who expanded the scope of Conceptual Metaphor Theory (CMT), introduced by Lakoff and Johnson, which states that “metaphor is primarily a matter of thought and action, and only derivatively a matter of language” (Lakoff & Johnson 1980, p. 153). Forceville’s research, both theoretical and empirical, created the groundwork for subsequent interdisciplinary studies on the use of visual metaphors, which are regarded as autonomous multimodal constructs that communicate ideas by fusing parts of different semiotic systems. As Forceville (2008) emphasizes, all possible manifestations of metaphor should be studied in order to avoid risk of misinterpretation, this is particularly evident in blended discourse such as that involved in advertising. Metaphorical images can produce greater persuasion effects than verbal ones because they require a different level of cognitive elaboration (Kendall, 2010).

In particular, using visual metaphors to communicate delicate subjects within the context of public awareness

campaigns is a very effective strategy, “which can ensure equal effect in different linguistic communities, producing a unique story narrated through the mechanisms of metaphorical and iconic mapping” (Platonova, 2019, p. 164). More specifically, the exploitation of tropes such as multimodal metaphor in this specific genre aims at triggering the audience’s attention and encouraging more people to get involved not only in conscious, but also subconscious mental interpretation of the messages embedded in such advertisements.

It has been demonstrated that the use of visual metaphors in advertising can reduce the complexity of some issues while simultaneously increasing the advertisement’s creativity and appeal (Burgers et al., 2015). According to Meijers, Remmelswaal, and Wonneberger (2019), environmental metaphors have primarily focused on verbal communication; however, visual metaphors may also promote attitudes that are comparable or even more intense. Thus, while there is significant interest in analysing the metaphors used to explain climate change, the focus has primarily been on verbal communication. Limited but existing cognitive theories have been applied to multimodal and visual metaphors (Augé, 2022; Hidalgo-Downing & O’Dowd, 2023; Mühlhäusler, 1999; Pérez-Sobrino, 2016a). In addition, most studies that have investigated multimodal metaphor in advertising discourse have focused on commercial advertisements, while little emphasis has been devoted to public awareness campaigns (e.g., Hidalgo-Downing & O’Dowd, 2023; Pérez-Sobrino, 2016a, 2016b, 2017; Pérez-Sobrino et al., 2021).

Thus, it is crucial to focus on non-commercial advertising, which, unlike business commercials, is primarily designed to inform and educate its audience and engage the public in a meaningful way in order to address such complicated issues (Doyle, 2011).

### *2.3 Green Non-Profit/Social Advertising*

Unlike commercial advertising, the focus of non-commercial advertising is not financial gain, rather to inform its audience and persuade them into establishing and maintaining healthy behaviours (Rice & Atkin, 2001). In particular, this type of advertising includes all the “non-commercial campaigns aimed at raising ecological awareness and thereby calling on the recipient to support social action or adopt an eco-oriented opinion” (Stöckl & Molnar, 2017, p. 267). Examples include animal rights, reducing pollution or preserving wildlife and nature as promoted by non-profit organisations and associations such as Greenpeace, WWF among others. As a result, social advertising covers a broad and ever-expanding range of subjects, all of which are brought together by the non-profit character of the campaigns and the goal of encouraging people to follow their environmental convictions (Stöckl & Molnar, 2017). Social advertising is concerned with environmental issues characterized by public appeals for changes in awareness and for donating money. Moreover, “the social advertisement uses the provocative effect of intentionally shocking imagery as a springboard to construing both a rational argument and/or an appeal to action” (Stöckl & Molnar, 2017, p. 272). Social advertisements prefer to shock the public by visualizing a “green nightmare” (Hansen, 2010, p. 148), in order to do so they recur to the use of visual metaphors. According to Capstick, Hemstock, and Senikula (2018), the use of visual metaphors is an effective strategy to engage audiences towards environmental change, since visuals can create approachable climate narratives rendering the issues more relevant to the audience (Galafassi et al., 2018). Moreover, by bypassing rational thinking, it impacts an individual’s emotions, which are considered a deeper and more powerful motivator for actions than logic (Perloff, 2010). However, the use of visual metaphors may have positive and negative outcomes (Rebich-Hespanha & Rice, 2016); for instance, people may feel that it is too late to intervene when visualizing natural disasters, thus resulting in people’s loss of interest in the issue. Indeed, studies (Hartmann, Apaolaza, D’Souza, Barrutia, & Echebarria, 2014; O’Neill, Boykoff, Niemeyer, & Day, 2013) have shown that using environmental fear appeals along with informative statements on environmental danger might diminish the efficacy of fear appeals, therefore, diminishing the perceived seriousness of the threat (Hartmann et al., 2014). Environmental threat messages can also reduce consumers’ belief in their ability to make a difference, which can lead to a decreased motivation to participate in pro-environmental actions (O’Neill et al., 2013). In addition to eliciting basic emotions like fear, advertising campaigns that focus on the negative impacts of climate change may also bring about negative social emotions like guilt or shame. For this reason, the use of shocking or negative visuals has been often criticized, resulting in requests for NGOs and media to promote sustainable consumption solutions, rather than focus only on the environmental problems (Doyle, 2007). Indeed, O’Neill and Nicholson-Cole (2009) found that images capable of showing what people can personally do can increase feelings of personal efficacy (e.g., one’s ability to contribute to sustainable behaviour and consumption).

Thus, the overall aim of this study is to examine green non-profit advertising to understand to what extent these advertisements may be effective when promoting and encouraging change in environmental behaviour patterns.

### 3. Data and Method

#### 3.1 Corpus

The corpus investigated for the present study consists of 130 visual and multimodal advertisements containing metaphor on environmental awareness taken from the online database Ads of the World (<https://www.adsoftheworld.com/>), by using search terms such as ‘global warming’, ‘climate change’, ‘pollution’, ‘deforestation’ and ‘forest fires’. The preliminary results illustrated in this paper are part of a larger ongoing study.

#### 3.2 Multimodal Metaphor Identification Procedure

The metaphor identification procedure used in this study (see Figure 1) is an adaptation of previous procedures designed for the identification of verbal, visual and multimodal metaphor (Alousque, 2014; Hidalgo-Downing & O’Dowd, 2023; Pragglejazz, 2007; Šorm & Steen, 2018; Steen et al., 2010). A brief description of the above-mentioned procedures is illustrated below.

MIPVU (Steen et al., 2010) is the refined version of MIP (Metaphor Identification Procedure, Pragglejazz, 2007) and is a systematic and objective procedure developed to identify linguistic metaphors. MIPVU focuses on identifying ‘metaphor-related words’, therefore given a text with a potentially metaphorical word, the contextual (metaphorical) meaning and the basic (literal) meaning of the word are quite different, and the contrast between them is the basis on what constitutes the metaphor. MIPVU, therefore, offers analysts the possibility of identifying metaphorical expressions by examining and testing language to check if there are lexical items that can be considered as indirect and incongruous in the context they are used “while the conceptual domain they relate to is somehow similar and comparable to the domain of that context” (Steen, 2016, p. 78).

As metaphor can be expressed through various means of communication, a procedure for visual metaphor identification (Šorm & Steen, 2018) was devised using MIPVU as a starting point. This procedure relies on the idea that visual metaphors typically present perceptually incongruous elements that violate the expected scenario and need to be mentally replaced with other elements, in order to restore the perceptual congruency of the scenario (Bolognesi & Aina, 2019). VISMIP has been used to identify visual units with a metaphorical use in images in persuasive genres such as political cartoons or advertisements.

The steps in MIPVU and VISMIP are comparable and can be summarised as follows:

The first step in MIPVU entails reading the text and establishing a general understanding. VISMIP starts by establishing a general understanding of the meaning of the visual image, its topic and its message.

Subsequently, in MIPVU the analyst must determine the contextual and basic meaning of the lexical unit under analysis through the use of dictionaries, and decide whether this contrast between meanings reveals some incongruity. In VISMIP the analyst determines whether the visual image displays any aspects that are incongruous with the general meaning.

In MIPVU, the analyst tests if there is a contrast between both meanings, and if that contrast can be understood as a comparison. VISMIP tests whether the incongruous visual units can be integrated by comparison within the topic. Both MIPVU and VISMIP then test whether the comparison between incongruous units is cross-domain.

In MIPVU the analyst must relate the two compared domains of the text by identifying which attributes of each of the domains are mapped onto each other. In VISMIP the analyst must test whether the identified comparison can be seen as indirect discourse about the topic of the image.

In both procedures, if the previous three steps give a positive result, the analyst annotates the text or the image for metaphoricality.

Hidalgo-Downing and O’Dowd (2023) include a step which allows the analyst to code multimodal metaphors as ‘across-domains’ or ‘within domains’. If the target domain is cued in one mode and the source in another, we must code as ‘across domains’. If either source or target, or both are cued in both verbal and visual modes, we code as ‘within domains’. A further step includes the identification of explicit value in visual units and in verbal expressions. When coding the evaluative potential of the ad, the verbal expression and the image are coded as negative or positive based on the connotation of the word used in the text, or used to describe the image. The overall evaluative potential of the ad is coded as positive if the image and/or text calls for action and participation (Hidalgo-Downing & O’Dowd, 2023, p. 237).

Metaphor has a pragmatic value which is linked to its role as an attention-grabbing device. Along with a cognitive analysis of metaphor and metonymy in order to identify the image schemas used and the modality employed, Alousque’s (2014, p. 160) approach also focuses on the intended message of the ad. It is this last step that we have included in our procedure.

Therefore, after having taken into consideration the above procedures, Figure 1 illustrates the steps we have followed to annotate green non-profit/social ads for multimodal metaphor.

**STEP 1: Interpret image / examine text**

1. Read the text and observe the images to establish a general understanding of the meaning.

**STEP 2: Identify verbal and visual metaphors**

- 1a. Identify metaphor-related words by examining the text on a word-by-word basis.
- 2a. Establish contextual meaning of potentially metaphorical lexical unit.
- 3a. Determine if lexical unit has a more basic meaning in contexts other than the given one.
- 4a. Test if contextual meaning contrasts with basic meaning but can be understood in comparison with it through the use of dictionaries.
- 1b. Identify visual units with figurative potential related to theme.
- 2b. Identify incongruous visual elements.
- 3b. Replace with congruous visual elements.
- 4b. Test if comparison is cross-domain according to the meanings of the words used to describe them.
5. Identify target and source domains in text and image.

**STEP 3: Code multimodal metaphors**

1. If the target domain is cued in one mode and the source in another, code as ‘across domains’.
2. If either the source, or the target, or both are cued both in the verbal and in the visual modes, code as ‘within domains’.

**STEP 4: Code evaluative potential**

1. Identify evaluative potential of visual units. Code image as negative or positive based on the connotation of the word used to describe it.
2. Identify evaluative potential of verbal expressions. Code word as negative or positive based on the connotation it carries.
3. Consider the overall evaluative potential. Code as positive if the image and / or text calls for action and participation.

**STEP 5: Pragmatic effect**

1. Interpret the intended message the advertisement seeks to convey.

Figure 1. Metaphor identification and coding procedure

We now illustrate the procedure by analysing an advertisement taken from our corpus. Figure 2 shows the campaign entitled ‘Danger in the Water’, created for the non-profit organisation *Less Plastic*. In the first step we read the text and observed the images to establish a general understanding of the meaning, which in this case deals with the threat of plastic pollution in our oceans. It shows the image of plastic resembling a huge wave during a tsunami and is accompanied by a text which says: “More than 8 million metric tons of plastic flood our oceans every day”.



Figure 2. *Less Plastic* © campaign ‘Danger in the water’

Step 2 includes four sub-steps for the identification of both verbal and visual metaphors. Beginning with the verbal expression “More than 8 million metric tons of plastic *flood* our oceans every day”, we identified metaphor-related

words by examining the text on a word-by-word basis and established the contextual meaning of potentially metaphorical lexical units through the use of dictionaries. In this case, according to the Longman English Dictionary the contextual meaning of the lexical unit 'flood' is: 3. *To arrive or go somewhere in large numbers.* We then determined if the lexical unit has a more basic meaning, which is: 1. *To cover a place with water, or to become covered with water.* The last sub-step involves contrasting and comparing. The contextual meaning of 'flood' contrasts with the basic meaning but can also be understood through it, therefore it was analysed as metaphoric according to the MIPVU procedure.

In part b of Step 2, following VISMIP, we identified the incongruous visual elements, which in this case is the image of plastic resembling a wave, and subsequently replaced the image with congruous visual elements, in our case, water. As was done for verbal metaphor, we tested if the comparison is cross-domain according to the meanings, and we concluded that the comparison of plastic and water is indeed cross-domain. In the last part of Step 2, we identified target and source domains in the text and image, which are 'plastic' and 'flood' in the former and 'plastic' and 'wave' in the latter. We can conclude that the visual incongruity is the image of plastic resembling a huge wave, triggering a metaphorical interpretation which we identify as PLASTIC IS A WAVE, which, thanks to the visual and verbal cues, enables the audience to access the broader conceptualisation of PLASTIC POLLUTION IS A TSUNAMI and PLASTIC POLLUTION IS A NATURAL DISASTER.

Steps 3 and 4 follow Hidalgo-Downing and O'Dowd's (2023) protocol for the coding of multimodal metaphors and value. Hence, if we consider Figure 2 once again, we have coded multimodality as 'within domains' since both target and source domains are cued visually – via the image of plastic for the target and the image of wave for the source, and verbally—through the use of the word 'flood' for the source and 'plastic' for the target. As for the evaluative potential of this ad, it is coded as negative since the image and the caption exclusively highlight the negative effects of plastic pollution which is evoked by the source domain, TSUNAMI/FLOOD and on a higher level, NATURAL DISASTER.

Step 5, modelled on Alousque's cognitive approach, focuses on the pragmatic effect of metaphor use in order to reveal the message that the creator of the ad seeks to convey to the audience. From sharks to tsunamis, the ocean is full of danger. Using found plastic, a series of images were created with the aim of raising awareness of the biggest threat facing our oceans: plastic pollution, and with the intention of convincing consumers to use less plastic.

The following section illustrates the quantitative results and subsequently focuses on seven of the source domain categories which have been used to classify the verbal and visual metaphors.

## 4. Results and Discussion

### 4.1 Quantitative Results

#### 4.1.1 Metaphorical Conceptualisation of Environmental Discourse

Six main themes were identified in the corpus, as illustrated in Figure 3 with pollution being the most frequently addressed theme. Figure 4 displays the target domains of the annotated metaphors. In line with the most frequently covered topics, plastic pollution is by far the most frequent target domain category. The metaphor target domains are however, quite varied in nature and go from global warming, to wildlife extinction, to human and so forth. Figure 5 illustrates the 12 source domain categories identified in this corpus. It is interesting to note that the human and animal categories are present in both target and source domains since they are talked of metaphorically in the former and provide the metaphor in the latter. (Note 1) What stands out are categories which imply a negative evaluation of the environmental themes: WAR, THREAT and NATURAL DISASTERS together make up 40% of the corpus. Other source domain categories such as HUMAN, CONCRETE ENTITY, BOOK and ACTION include metaphors which include DEFORESTATION IS A FOOTPRINT, EARTH IS AN EXPLODING LIGHTBULB, CLIMATE CHANGE IS AN UNPUBLISHED BOOK, and CONTROLLING POLLUTION IS SWEEPING UNDER A RUG. We will explore further source domains in more detail in the following sections.

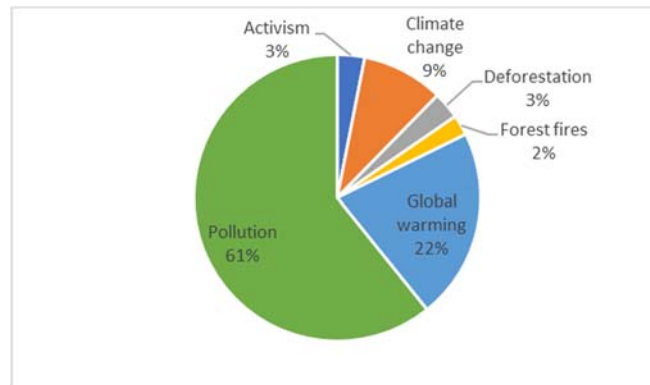


Figure 3. Themes

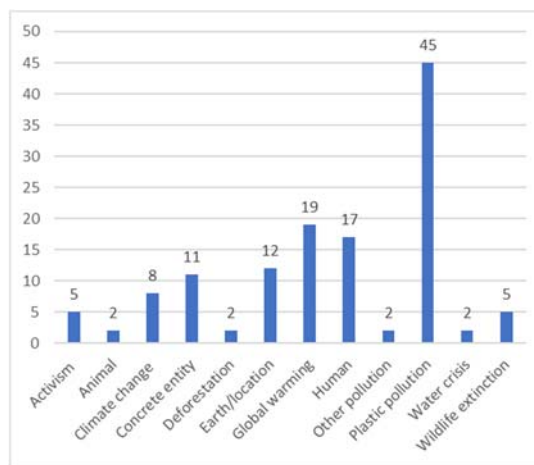


Figure 4. Target domain categories

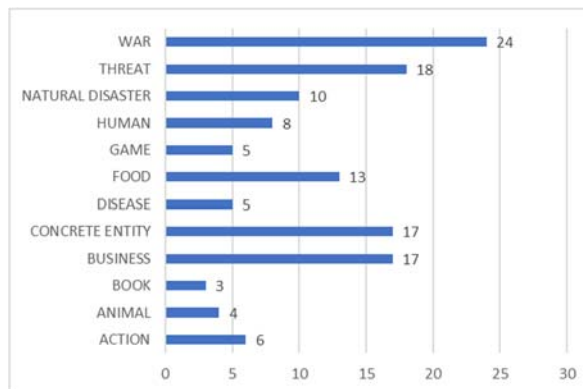


Figure 5. Source domain categories

#### 4.1.2 Multimodality of Target and Source Domains

In line with previous studies which have focused on advertising, the majority of metaphors identified in this corpus are multimodal (Figure 6, Forceville, 2009; Hidalgo-Downing & O’Dowd, 2023; Pérez-Sobrino, 2016) and multimodal cueing occurs more frequently within both the target and source domains as illustrated in Figure 7.



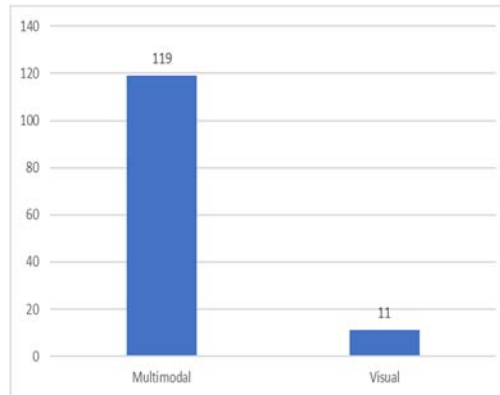


Figure 6. Multimodal and visual metaphors

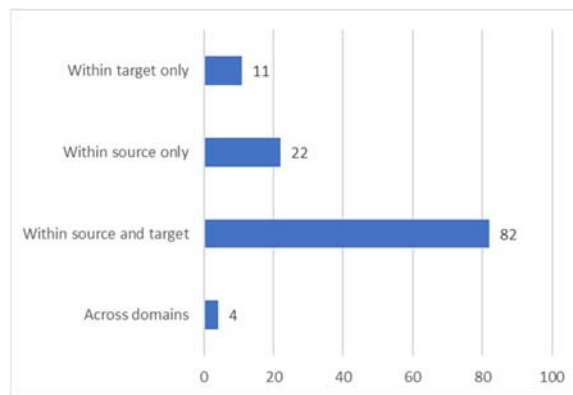


Figure 7. Modality

#### 4.1.3 Evaluative Potential of the Ads

As shown in Figure 8, the analysis reveals that 36% of the ads have negative evaluative potential, 62% mixed negative and positive value, and only 2% have a positive evaluative potential. The ads with a negative value do not call for action but use metaphor to highlight the negative consequences of global warming, pollution and so forth. The ads which convey exclusively positive value focus on the positive implications of environmental activism.

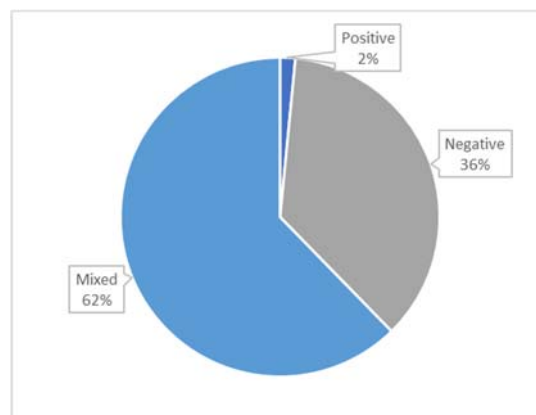


Figure 8. Evaluative potential

The majority of the ads though, convey mixed value overall, meaning that they communicate a negative figurative message and a positive call for action. In most cases the positive value is delivered through the verbal expressions. The following sections illustrate and discuss the multimodal metaphors employed in some of the most representative campaigns per source domain.

## 4.2 Qualitative Results

### 4.2.1 BUSINESS Source Domain

Various visual and verbal metaphorical units can be found in the BUSINESS source domain such as ‘economic transaction’, ‘business project’, ‘legacy’, and ‘business plan’. The conceptual metaphors are part of the broader conceptual key POLLUTION/GLOBAL WARMING/CLIMATE CHANGE IS BUSINESS (Figure 9).

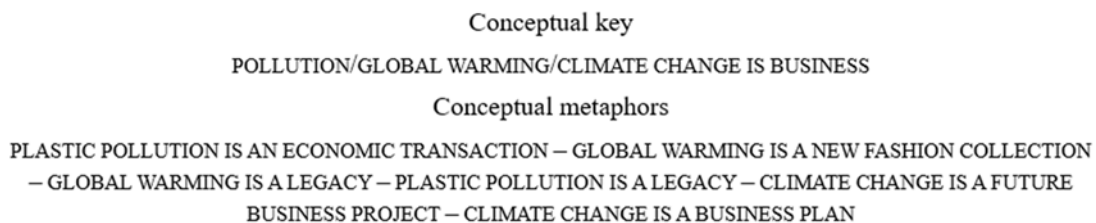


Figure 9. BUSINESS conceptual metaphors

World fashion industry generates more CO<sub>2</sub> emissions than all commercial flights and cargo ships combined. The sustainable fashion revolution is the concept embodied in the Global Warming Collection campaign by the ONIRIA agency in conjunction with WWF and in partnership with scientific researchers from Berkeley Earth and Texciclo, along with designer Emma Viedma, which consists of eight advertisements and dresses inspired by graphs of scientific data, using patterns and colors linked to global warming effects, one of which can be seen in Figure 10. The multimodal metaphor identified here is GLOBAL WARMING IS A NEW FASHION COLLECTION.



Figure 10. WWF © campaign ‘Global Warming Collection’

Multimodality has been coded as ‘within source and target’ and the evaluative potential as mixed since the intended message of the campaign is to promote responsible consumption of clothing and to raise awareness in the world with the sustainable fashion revolution. Advertisers focus on viewers’ sense of responsible consumption. Indeed, studies into purchasing behaviour have demonstrated that consumers have been showing increasing ethical concern in the context of fashion consumption (Niinimäki, 2010), with consumers concerned about the social consequences of their purchases (Dickson, 2001). Therefore, the overall aim of the ad is to raise awareness and make known that fast fashion waste (collections by season) is the second leading cause of global warming. This campaign invites us

to reflect as fashion consumers and makes a call to reduce our impact on the environment by recalling scientific data graphics of global warming effects. The title of the campaign, “Season to start again”, has a positive appeal and sparks curiosity in the viewer.

#### 4.2.2 FOOD Source Domain

The FOOD source domain includes visual and verbal representations of ‘fiery burger’, ‘melting ice-cream’, ‘catch of the day’. The overarching conceptual key POLLUTION IS FOOD gives way to a series of conceptual metaphors which are illustrated in Figure 11.

**Conceptual key**  
 POLLUTION IS FOOD  
**Conceptual metaphors**  
 OCEAN POLLUTION IS CATCH OF THE DAY – PLANET IS A MELTING ICE CREAM – PLASTIC WASTE IS A FOOD  
 ORDER – EARTH IS A FIERY BURGER – TRUCK IS A TRAVELLING COCONUT – AEROPLANE IS A FLYING  
 PINEAPPLE – BOAT IS A SAILING BANANA

Figure 11. FOOD conceptual metaphors

This particular campaign (Figure 12) created for Surfrider Foundation Europe was unveiled on July 20th, 2020, the same day the latest revision of the European Commission’s Directive on packaging and packaging waste came into effect, coinciding with Plastic Free July, a global initiative to reduce plastic consumption. The message “Your order has been delivered” is used in reference to home delivery apps, but instead of showing food, the visual depicts waste floating in the ocean. The text points out that 36% of plastic waste is food waste. The use of multimodality in this campaign creates the conceptual metaphor PLASTIC WASTE IS A FOOD ORDER. The ad serves as a reminder that home deliveries can result in waste ending up in the ocean. Surfrider Europe is drawing attention to the ecological crisis caused by the increase in single-use waste from take-out and home deliveries, emphasizing the urgent need to protect our oceans.



Figure 12. *Surfrider Foundation* © campaign ‘The branch’

Despite the negative visual evaluative potential, overall, it has been coded as mixed since the goal of this campaign is not to make consumers and catering players feel guilty, but to motivate them to embrace more responsible practices and make improved decisions in response to environmentally damaging consumer trends. The focus is on demonstrating that sustainable options are available, such as utilizing reusable containers or deposit boxes, and highlighting that alternatives to single-use products are available. Thus, the ad is a call to action, an opportunity for companies to create innovative recycling programs and initiatives that resonate with consumers’ eco-

consciousness.

#### 4.2.3 GAME Source Domain

GAME metaphors are typically used to highlight that we are key players in the ‘climate game’ and that we need to actively participate in order to win. In games, unlike sports, the participants typically sit around a table and hold cards in their hands or move pieces around on a board. Thus, the physical qualities of the participants typically do not count as much as their mental capacities. Figure 13 illustrates the conceptual metaphors belonging to the GAME source domain.

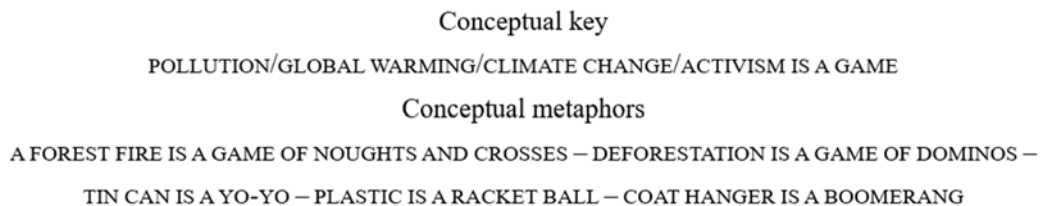


Figure 13. GAME conceptual metaphors

Figure 14, which visually presents a game of noughts and crosses, is a 2022 ad entitled “It’s your turn”, which is also the verbal expression on the ad along with the information that “More than 190,000 ha. of forests have been consumed by fire”. Visual and verbal cues lead to the conceptual metaphor A FOREST FIRE IS A GAME OF NOUGHTS AND CROSSES where one player is fighting forest fires and the other is causing them.

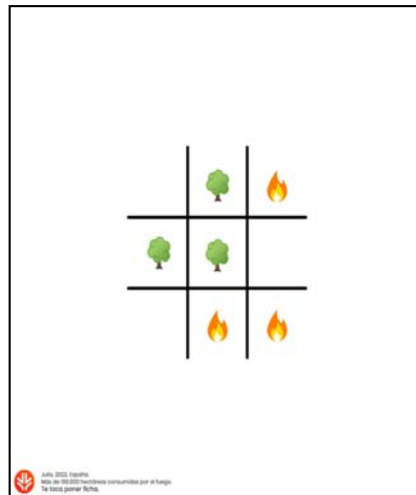


Figure 14. *Whakamua* © campaign ‘It’s your turn’

As simple and minimalistic as it may seem, ‘It’s your turn’ is quite effective and powerful as an ad. Indeed, it has a mixed evaluative potential with a call to action. First of all, it recalls a sense of guilt as previous ads discussed above, since it is human activity which causes forest fires. But the power is in the consumer’s hands who has to decide what to do with it. It is a clever thought strategy because it is interactive and involving. In this social campaign viewers are called upon to decide the fate of the world by playing noughts and crosses. It reminds us that there is no time to waste, but rather the time has come for us to act, if we make the right move, we will win the game.

The second ad (Figure 15) is part of a campaign created for Legambiente which represents ‘solo’ games. In this case it is a boomerang, in the others it is a yo-yo or a racket and ball. The overarching metaphor is POLLUTION IS A GAME, the aim of the campaign is to underline that the effects of pollution on the natural environment are caused by our actions, which sooner or later will return to us.



Figure 15. *Legambiente* © campaign ‘Racket, Boomerang, Yo-Yo’

This ad, like the previous one, has been coded ‘within source and target’ and has a mixed evaluative potential with a call to action. The aim is to appeal to the viewers’ sense of guilt if they do not try to live more sustainably or take action to ameliorate climate change. The underlying message is that pollution is caused by humans and whatever happens to nature is our fault and will cause problems to our lives. Therefore, it is necessary to change environmental behaviours to avoid devastating effects.

#### 4.2.4 DISEASE Source Domain

DISEASE metaphors “are generally seen as powerful means of fostering concern and action by invoking universal experiences of health and illness” (Koteyko & Atanasova, 2016, p. 302). Verbal cues such as ‘cure’ and ‘virus’ characterized the source domain of DISEASE along with visual elements such as ‘virus molecules’ and ‘syringes’ and which led us to postulate the following conceptual metaphors (Figure 16):

**Conceptual key**  
 POLLUTION IS A DISEASE  
**Conceptual metaphors**  
 PLANET IS VIRUS MOLECULE – PLASTIC IS VIRUS MOLECULE – SAVING WATER IS  
 A CURE FOR THE PLANET

Figure 16. DISEASE conceptual metaphors

The example in Figure 17 is a campaign created for WWF and the aim is to raise public awareness about the importance of saving water. The image shows a crack in the dry earth and a drop of water coming out of a syringe. We can understand the concept of the dry earth as one of the effects of climate change and the image of the syringe filled with water and a drop falling to the earth as the importance of this natural resource. The text that accompanies the image (“Drop by drop, we reach the cure”) confirms that the planet is affected by a disease (climate change), the cure is the sum of each drop, and the action to take is that of saving water resources in order to cure the planet.

Both the visual and lexical units were annotated as metaphorical and the conceptual metaphor SAVING WATER IS A CURE FOR THE PLANET was identified.



Figure 17. WWF © campaign 'Planets cure'

The overall potential is mixed since the picture recalls a negative meaning while the verbal expression is positive. Indeed, water scarcity is a man-made phenomenon that arises from an overuse of water resources. Since the planet is suffering from a disease which is climate change and the cure is the sum of every drop, the only way to find a cure is by saving water resources. The intended message is to encourage the audience to save water, and therefore, save the planet.

#### 4.2.5 ANIMAL Source Domain

The corpus does not include many occurrences of the ANIMAL source domain. Indeed, three out of the four conceptual metaphors (Figure 18) have been identified in ads belonging to the same campaign. It is interesting to note how the conceptual metaphors fall under the conceptual key POLLUTION/CLIMATE CHANGE IS A THREAT. Human activities are leaching toxic chemicals into the environment and threatening animal life, as well as human life as we will see below.

**Conceptual key**  
 POLLUTION/CLIMATE CHANGE IS A THREAT  
**Conceptual metaphors**  
 MUTATED HUMAN IS A FISH – CIGARETTE BUTT IS A CRASHED FISH – CIGARETTE BUTT IS A CRASHED  
 FROG – CIGARETTE BUTT IS A CRASHED BIRD

Figure 18. ANIMAL conceptual metaphors

Indeed, one ad that employed emotional appeal and was of particular impact was the 2008 ad by the World Wildlife Fund, which appeared as part of a global climate change campaign entitled 'Fish' (Figure 19). The ad depicts a man who is mutating into a fish and is accompanied by the text "Stop climate change before it changes you". The identified metaphor is MUTATED HUMAN IS FISH.



Figure 19. WWF © campaign 'Fish'

The poster was expected to elicit a powerful emotional reaction and consequently encourage the viewer to adopt the WWF's solutions for mitigating the adverse impacts of climate change. The organisation offered various solutions to lower CO<sub>2</sub> emissions, with the message that each person could make a difference in their daily life to avoid negative consequences for everyone. In fact, using the second person, i.e., "before it changes you" instead of "before it changes human beings" has the aim of giving a more personal touch to the ad.

Moreover, this ad, in particular, can be investigated from the perspective of the psychology of fear and guilt. Fear appeal is defined by Perloff (2010) as "a persuasive communication that tries to scare people into changing their attitudes by conjuring up negative consequences that will occur if they do not comply with the message recommendations" (p. 196). The intention of showing a mutated human body in the image is to scare the audience, whereas the idea of taking personal accountability for the impacts of climate change is meant to evoke feelings of guilt. Using fear and guilt in advertising campaigns can be risky as they are negative emotions, potentially leading viewers to develop negative attitudes towards the campaign's subject or the organisation behind it. Nevertheless, these appeals can prove quite potent as they tap into deep levels of human understanding. Certainly, climate change initiatives frequently highlight the importance of humans feeling remorse for their excessive use of natural resources and their disregard for the environment.

#### 4.2.6 THREAT Source Domain

In our corpus, the source domain THREAT includes entities such as 'predators' and 'traps', and events such as 'drowning' along with verbal expressions such as 'killer'. Both verbal and visual modes lead to the following conceptual metaphors (Figure 20).

Conceptual key  
 POLLUTION/GLOBAL WARMING IS A THREAT  
 Conceptual metaphors  
 PLASTIC IS A PREDATOR – PLASTIC IS A TRAP – POLLUTING IS SELF-HARM – ISLANDS ARE DROWNING  
 PEOPLE – RADIATOR IS PRISON BARS – PLASTIC IS A HORROR HOUSE – PLASTIC IS A TRAP

Figure 20. THREAT conceptual metaphor

Figure 21 is a campaign by Surfers Against Sewage depicting a shredded plastic bag resembling an enormous jelly fish. After having identified the incongruous visual element and having compared and contrasted the lexical unit 'killer' we identified the conceptual metaphor A PLASTIC BAG IS A PREDATOR, or on a more general level, PLASTIC IS A PREDATOR, therefore both target and source domains are cued visually and verbally.

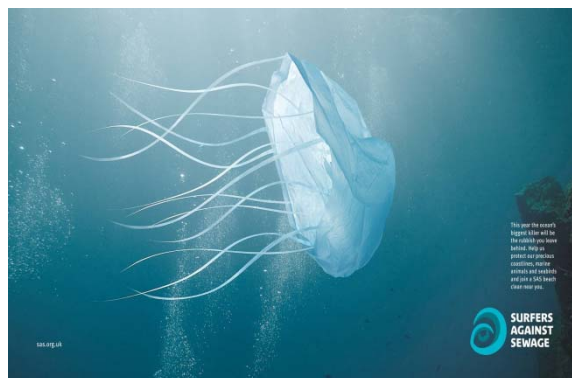


Figure 21. *Surfers Against Sewage* © campaign ‘Serpents, Jelly fish, Teeth’

The main trend of the campaign is Ocean Pollution Awareness. Once again, the association has created fear-based advertising campaigns to warn of the menace of plastic bags to the marine environment. The ad has a negative evaluative potential due to the PREDATOR source domain. However, the overall evaluative potential was coded as mixed, thanks to a call for action against plastic pollution. In fact, the idea of fear surrounded by sharks and other mysterious sea creatures should be eliminated. This is because the biggest fear of them all is the pollution that people themselves are putting into our seas and oceans.

#### 4.2.7 WAR Source Domain

The most frequent source domain category identified in our corpus is that of WAR, which is mainly used in these campaigns to conceptualise plastic pollution and global warming. Based on the linguistic and visual metaphors that have been identified as belonging to the WAR source domain, the conceptual metaphors, as illustrated in Figure 22, were postulated.



Figure 22. WAR conceptual metaphors

Studies on environmental communication have found that WAR metaphors “generate an increased sense of urgency around the environmental crisis and to characterize the delicacy of the political debates that surround it” (Hidalgo-Downing & O’Dowd, 2023, p. 233). The ads in our corpus visually display entities such as ‘hand grenades’ and ‘mushroom clouds’, and verbally via references to events such as ‘invasions’ and ‘war’. The two ads in Figure 23 are part of a campaign entitled ‘Bombs’ created for Greenpeace and published in the United States in 2020.





Figure 23. Greenpeace © campaign ‘Bombs’

We identified the conceptual metaphors PLASTIC IS A BOMB / PLASTIC POLLUTION IS WAR. The campaign was coded as multimodal, since the source and target domains are cued visually via the image of the plastic bottle and plastic six-pack wrapping and verbally through the use of the lexical units ‘bombing’ and ‘war’.

The evaluative potential is mixed and like in the majority of the cases, as previously stated, the positive value is expressed through the verbal expression. The message is framed as a cry for help by the animals that are dying due to human activity, and more specifically, due to the massive use and disposal of plastic in the environment. It is interesting to note that soda and beer companies, such as Coca-Cola HBC, stopped using plastic six-pack rings and shrink wrapping at the end of 2021, with the intention of replacing them with cardboard wrap carriers by the end of 2025.

In Figure 24, the WAR source domain is cued visually via the plastic missiles which have been fired into the ocean and verbally through the use of the lexical unit ‘fought’.



Figure 24. Ngage Media © campaign ‘What if nature fought back’ for Earth Day 2023

The overall evaluative potential of this ad is negative. Considering the terrible effects of human activity on the environment, we have to consider the possibility that nature might rebel. The harm we have caused to the environment by actions like pollution, deforestation, and excessive consumerism has led to ecosystem degradation and biodiversity loss. Therefore, the intended message is a call for action. For a sustainable future, it is imperative that we accept responsibility, defend the environment, and preserve the diversity and beauty of our planet.

## 5. Conclusions

Studies on how climate change is portrayed in popular discourse have increased significantly, according to the

expanding corpus of research in the field of environmental discourse, with a focus on the use of rhetorical and discursive devices to garner more support and encourage action. Research has begun to concentrate in particular on non-commercial efforts, which, in contrast to commercial advertising, aim to increase ecological consciousness in order to encourage social action or the adoption of an eco-oriented viewpoint by the recipient. The visual portrayal of the selected metaphor helps the audience understand the complexities of the global climate change situation and all of its repercussions and interconnections. The mainstream media shapes the public's perception of environmental issues and concerns in large part, and visual representations are becoming a common component of this communication (Hansen, 2017). Effective climate communication can be achieved by employing visuals, which also help to simplify and lessen the complexity of the topic (Bilandzic, Kalch, & Soentgen, 2017; Galafassi, Tàbara, & Heras, 2018; Lazard & Atkinson, 2015; Vu et al., 2020).

Thus, the overall aim of this study has been to investigate the use of multimodal metaphor in green non-profit/social advertising in order to understand to what extent these rhetorical devices may be effective when promoting and encouraging change in behaviour concerning eco-oriented practices.

Specifically, the present study adopted both a verbal (MIPVU) (Steen et al., 2010) and visual (VISMIP) (Šorm & Steen, 2018) metaphor identification procedure, as well as drawing on Hidalgo-Downing and O'Dowd's (2023) value identification annotation protocol and Alousque's (2014) cognitive approach in an attempt to illustrate the widespread use of both verbal and visual metaphor in non-commercial environmental advertising. The corpus investigated for the present study consists of 130 visual and multimodal advertisements containing metaphor on environmental awareness taken from the online database Ads of the World. The project outlined in this paper aimed at understanding how environmental discourse is conceptualised metaphorically, as well as understanding both the evaluative potential of the ads and their pragmatic effect.

In particular, the analysis has revealed how environmental themes such as climate change, global warming, pollution, along with other human activities such as deforestation and forest fires are conceptualised metaphorically, with pollution being the most frequently addressed theme and plastic pollution the most recurrent target domain category. The findings of the investigation appear to be in line with previous research based on the pragmatic effect of metaphor used by non-profit organisations, in an attempt to create a conscious environment culture. The majority of the metaphors suggest a mixed or negative evaluation of the environmental issues as they pertain to source domains such as WAR, THREAT, NATURAL DISASTER, but also to domains such as ANIMAL and FOOD as even the latter refer to the threat caused by negative human activity on the environment.

Although the study can contribute to the increasing literature on the use of visuals and metaphors in environmental communication, there are some limitations, which may give rise to further research. For instance, the analysis did not take into consideration the crucial role that metonymy plays in these campaigns, as it enables the reader to access broader source domains from the specific visual and verbal cues. Moreover, due to space constraints, not all categories have been illustrated and explained in detail, which can lead to an overgeneralization of the assumptions made in this study.

### **Acknowledgments**

Not applicable.

### **Authors' contributions**

Although the authors have collaborated in the research work and in writing the paper, they have individually devoted specific attention to the following sections: Caruso: 2.2, 3.1, 3.2, 4.1.1, 4.2.4, 4.2.5, 4.2.6, 4.2.7, 5; Ruffolo: 1, 2.1, 2.3, 4.1.2, 4.1.3, 4.2.1, 4.2.2, 4.2.3.

### **Funding**

Not applicable.

### **Competing interests**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### **Informed consent**

Obtained.

### **Ethics approval**

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

**Provenance and peer review**

Not commissioned; externally double-blind peer reviewed.

**Data availability statement**

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

**Data sharing statement**

No additional data are available.

**References**

- Adger, W. N., Benjaminsen, T. A., Brown, K., & Svarstad, H. (2001). Advancing a political ecology of global environmental discourses. *Development and Change*, 32(4), 681–715. <https://doi.org/10.1111/1467-7660.00222>
- Alousque, I.N. (2014). Verbo-pictorial metaphor in French advertising. *Journal of French Language Studies*, 24, 155–180. <https://doi.org/10.1017/S0959269513000045>
- Altınay, Z. (2017). Visual communication of climate change: local framing and place attachment. *Coastal Management*, 45(4), 293–309. <https://doi.org/10.1080/08920753.2017.1327344>
- Augé, A. (2022). How visual metaphors can contradict verbal occurrences: A cross-linguistic and multimodal analysis of the imprint of climate change. *Metaphor and the Social World*, 12(1), 1–22. <https://doi.org/10.1075/msw.20001.aug>
- Bilandzic, H., Kalch, A., & Soentgen, J. (2017). Effects of Goal Framing and Emotions on Perceived Threat and Willingness to Sacrifice for Climate Change. *Science Communication*, 39(4), 466–491. <https://doi.org/10.1177/1075547017718553>
- Bolognesi, M., & Aina, L. (2019). Similarity is closeness: Using distributional semantic spaces to model similarity in visual and linguistic metaphors. *Corpus Linguistics and Linguistic Theory*, 15(1), 101–137. <https://doi.org/10.1515/cllt-2016-0061>
- Brundtland, G. (1987). *Report of the World Commission on Environment and Development: Our Common Future*. United Nations General Assembly document A/42/427. Retrieve May 2, 2024, from <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>
- Burgers, C., Konijn, E. A., Steen, G. J., & Iepsma, M. A. R. (2015). Making ads less complex, yet more creative and persuasive: the effects of conventional metaphors and irony in print advertising. *International Journal of Advertising*, 34(3), 515–532. <https://doi.org/10.1080/02650487.2014.996200>
- Capstick, S., Hemstock, S., & Senikula, R. (2018). Perspectives of artist–practitioners on the communication of climate change in the Pacific. *International Journal of Climate Change Strategies and Management*, 10(2), 323–339. <https://doi.org/10.1108/IJCCSM-03-2017-0058>
- Carvalho, A. (2020). Discourses for transformation? Climate change, power and pathways to the future. In K. Krippendorff & N. Halabi (Eds.), *Discourses in Action: What Language Enables Us to Do* (pp. 104–119). Routledge. <https://doi.org/10.4324/9780429356032-6>
- Charteris-Black, J. (2011). *Politicians and rhetoric: The persuasive power of metaphor*. Palgrave Macmillan. <https://doi.org/10.1057/9780230319899>
- Cottle, S. (2010). New(s) Times: Towards a ‘Second Wave’ of News Ethnography. *Communications*, 25(1), 19–42. <https://doi.org/10.1515/comm.2000.25.1.19>
- Cunningham, C., Foxcroft, C., & Sauntson, H. (2022). The divergent discourses of activists and politicians in the climate change debate: An ecolinguistic corpus analysis. *Language and Ecology*, 1–18.
- Deignan, A. (2005). *Metaphor and Corpus Linguistics*. Amsterdam: John Benjamins Publishing. <https://doi.org/10.1075/ceclr.6>
- Dickson, M. A. (2001). Utility of no sweat labels for apparel consumers: profiling label users and predicting their purchases. *The Journal of Consumer Affairs*, 35(1), 96–120. <https://doi.org/10.1111/j.1745-6606.2001.tb00104.x>
- Doyle, J. (2007). Picturing the Clima(c)tic: Greenpeace and the representational politics of climate change communication. *Science as Culture*, 16(2), 129–150. <https://doi.org/10.1080/09505430701368938>

- Doyle, J. (2011). *Mediating Climate Change*. Ashgate Publishing Ltd.
- Dryzek, J. S. (1997). *The politics of the earth. Environmental discourses*. Oxford University Press.
- Fleming, A., Vanclay, F., Hiller, C., & Wilson, S. (2014). Challenging dominant discourses of climate change. *Climatic Change*, 127(3–4). <https://doi.org/10.1007/s10584-014-1268-z>
- Fløttum, K., & Gjerstad, Ø. (2017). Narratives in climate change discourse. *WIREs Climate Change*, 8, e429. <https://doi.org/10.1002/wcc.429>
- Forceville, C. (1996). *Pictorial metaphor in advertising*. Taylor & Francis Group. <https://doi.org/10.4324/9780203272305>
- Forceville, C. (2007). Multimodal metaphor in ten Dutch TV commercials. *Public Journal of Semiotics*, 1(1), 19–51. <https://doi.org/10.37693/pjos.2007.1.8812>
- Forceville, C. (2008). Metaphors in pictures and multimodal representations. In R. W. Jr. Gibbs (Ed.), *Cambridge Handbook of Metaphor and Thought* (pp. 462–482). Cambridge University Press. <https://doi.org/10.1017/CBO9780511816802.028>
- Forceville, C. (2009). Non-verbal and multimodal metaphor in a cognitivist framework: Agendas for research. In C. Forceville & E. Urios-Aparisi (Eds.), *Multimodal Metaphor* (pp. 19–42). Berlin, New York: De Gruyter Mouton. <https://doi.org/10.1515/9783110215366>
- Fransson, K. (2020). *An Emerging Climate Change or a Changing Climate Emergency? A corpus-driven discourse study on newspapers published in England*. Dissertation, Malmö universitet/Kultur och samhälle. Retrieved from <https://urn.kb.se/resolve?urn=urn:nbn:se:mau:diva-23166>
- Galafassi, D., Kagan, S., Milkoreit, M., Heras, M., Bilodeau, C., Bourke, S. J., ... Tàbara, J. D. (2018). ‘Raising the temperature’: the arts on a warming planet. *Current Opinion in Environmental Sustainability*, 31, 71–79. <https://doi.org/10.1016/j.cosust.2017.12.010>
- Galafassi, D., Tàbara, J. D., & Heras, M. (2018). Restoring our senses, restoring the Earth. Fostering imaginative capacities through the arts for envisioning climate transformations. *Elementa: Science of the Anthropocene*, 6(1), 69. <https://doi.org/10.1525/elementa.330>
- Hajer, M., & Versteeg, W. (2005). A Decade of Discourse Analysis of Environmental Politics: Achievements, Challenges, Perspectives. *Journal of Environmental Policy & Planning*, 7(3), 175–184. <https://doi.org/10.1080/15239080500339646>
- Hajer, M. A. (1995). *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. New York, NY: Oxford University Press.
- Hansen, A. (2010). *Environment, Media and Communication*. Oxon: Routledge. <https://doi.org/10.4324/9780203860014>
- Hansen, A. (2017). Using Visual Images to Show Environmental Problems. In A. Fill & H. Penz (Eds.), *The Routledge handbook of ecolinguistics* (pp. 179–195). New York: Routledge. <https://doi.org/10.4324/9781315687391-13>
- Hartmann, P., Apaolaza, V., D’Souza, C., Barrutia, J. M., & Echebarria, C. (2014). Environmental threat appeals in green advertising: the role of fear arousal and coping efficacy. *International Journal of Advertising*, 33(4), 741–765. <https://doi.org/10.2501/IJA-33-4-741-765>
- Hidalgo-Downing, L., & O’Dowd, N. (2023). Code Red for Humanity: Multimodal Metaphor and Metonymy in Noncommercial Advertisements on Environmental Awareness and Activism. *Metaphor and Symbol*, 38(3), 231–253. <https://doi.org/10.1080/10926488.2022.2153336>
- Intergovernmental Panel on Climate Change (IPCC). (2007). *Climate change 2007: The physical science basis*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511546013>
- Jeong, S.-H. (2008). Visual Metaphor in Advertising: Is the Persuasive Effect Attributable to Visual Argumentation or Metaphorical Rhetoric? *Journal of Marketing Communications*, 14, 59–73. <https://doi.org/10.1080/14697010701717488>
- Kendall, W. A. (2010). *Examining the persuasive effect of metaphor use in psychotherapy: An experimental test of contributing factors*. Doctoral dissertation. ProQuest (Accession No. 3402454).
- Koteyko, N., & Atanasova, D. (2017). Metaphor and the representation of scientific issues: climate change in online and print media. In E. Semino & Z. Demjen (Eds.), *The Routledge Handbook of Metaphor and*

- Language* (pp. 296–308). Routledge.
- Kotler, P. (2011). Reinventing Marketing to Manage the Environmental Imperative. *Journal of Marketing*, 75(4), 132–135. <https://doi.org/10.1509/jmkg.75.4.132>
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. London: The University of Chicago Press
- Larson, B. (2011). *Metaphors for environmental sustainability: Redefining our relationship with nature*. New Haven: Yale University Press. <https://doi.org/10.2307/j.ctt5vm557>
- Lazard, A., & Atkinson, L. (2014). Putting Environmental Infographics Center Stage. *Science Communication*, 37(1), 6–33. <https://doi.org/10.1177/1075547014555997>
- Mcquarrie, E., & Phillips, B. (2005). Indirect persuasion in advertising: How consumers process metaphors presented in pictures and words. *Journal of Advertising*, 34(2), 7–20. <https://doi.org/10.1080/00913367.2005.10639188>
- Meijers, M. H. C., Rimmelswaal, P., & Wonneberger, A. (2019). Using Visual Impact Metaphors to Stimulate Environmentally Friendly Behavior: The Roles of Response Efficacy and Evaluative Persuasion Knowledge. *Environmental Communication*, 13(8), 995–1008. <https://doi.org/10.1080/17524032.2018.1544160>
- Mühlhäusler, P. (1999). Metaphor and metonymy in environmental advertising. *AAA: Arbeiten Aus Anglistik Und Amerikanistik*, 24(2), 167–180.
- Nerlich, B., & Koteyko, N. (2009). MRSA: portrait of a superbug: a media drama in three acts. In A. Musolff & J. Zinken (Eds.), *Metaphor and Discourse* (pp. 153–172). Palgrave Macmillan. [https://doi.org/10.1057/9780230594647\\_10](https://doi.org/10.1057/9780230594647_10)
- Nerlich, B., Koteyko, N., & Brown, B. (2010). Theory and language of climate change communication. *WIREs Climate Change*, 1, 97–110. <https://doi.org/10.1002/wcc.0>
- Nicholson-Cole, S. A. (2005). Representing climate change futures: a critique on the use of images for visual communication. *Computers, Environment and Urban Systems*, 29, 255–273. <https://doi.org/10.1016/j.compenvurbsys.2004.05.002>
- Niinimäki, K. (2010). Eco-clothing, consumer identity and ideology. *Sustainable Development*, 18, 150–162. <https://doi.org/10.1002/sd.455>
- O’Neill, S., & Nicholson-Cole, S. (2009). “Fear won’t do it”: Promoting positive engagement with climate change through visual and iconic representations. *Science Communication*, 30(3), 355–379. <https://doi.org/10.1177/1075547008329201>
- O’Neill, S. J., Boykoff, M., Niemeyer, S., & Day, S. A. (2013). On the use of imagery for climate change engagement. *Global Environmental Change*, 23(2), 413–421. <https://doi.org/10.1016/j.gloenvcha.2012.11.006>
- O’Neill, S. J., & Hulme, M. (2009). An iconic approach for representing climate change. *Global Environmental Change*, 19(4), 402–410. <https://doi.org/10.1016/j.gloenvcha.2009.07.004>
- Penz, H. (2017). ‘Global warming’ or ‘climate change’? In F. Alwin & H. Penz (Eds.), *The Routledge Handbook of Ecolinguistics* (pp. 277–292). New York: Routledge. <https://doi.org/10.4324/9781315687391-19>
- Pérez-Sobrino, P. (2016a). ‘Shockvertising’: Conceptual interaction patterns as constraints on advertising creativity. *Círculo de Lingüística Aplicada a La Comunicación*, 65, 257–290. [https://doi.org/10.5209/rev\\_CLAC.2016.v65.51988](https://doi.org/10.5209/rev_CLAC.2016.v65.51988)
- Pérez-Sobrino, P. (2016b). Multimodal metaphor and metonymy in advertising: A corpus-based account. *Metaphor and Symbol*, 31(2), 73–90. <https://doi.org/10.1080/10926488.2016.1150759>
- Pérez-Sobrino, P. (2017). *Multimodal metaphor and metonymy in advertising*. John Benjamins. <https://doi.org/10.1075/fl.2>
- Pérez-Sobrino, P., Littlemore, J., & Ford, S. (2021). *Unpacking creativity: The power of figurative communication in advertising*. Cambridge University Press. <https://doi.org/10.1017/9781108562409>
- Perloff, R. M. (2010). *The dynamics of persuasion: Communication and attitudes in the 21st century* (4th ed.). New York, NY: Routledge. <https://doi.org/10.4324/9781003290056-3>
- Platanova, M. (2019). Poster, poster on the WALL, Do you really mean it all? Decoding visual metaphor ‘global warming’ in public awareness campaigns. *Research in Language*, 17(2), 147–166.

<https://doi.org/10.18778/1731-7533.17.2.03>

- Pragglejaz Group. (2007). MIP: A method for identifying metaphorically used words in discourse. *Metaphor and Symbol*, 22(1), 1–39. <https://doi.org/10.1080/10926480709336752>
- Rebich-Hespanha, S., & Rice, R. E. (2016). Dominant visual frames in climate change news stories: Implications for formative evaluation in climate change campaigns. *International Journal of Communication*, 10, 4830–4862.
- Rice, R. E., & Atkin, C. K. (2009). Public communication campaigns: Theoretical principles and practical applications. In J. Bryant & M. Oliver (Eds.), *Media effects: Advances in theory and research* (3rd ed., pp. 436–468). Hillsdale, NJ: Lawrence Erlbaum.
- Semino, E. (2008). *Metaphor in Discourse*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511816802.015>
- Semino, E. (2021). “Not Soldiers but Fire-fighters” – Metaphors and Covid-19. *Health Communication*, 36(1), 50–58. <https://doi.org/10.1080/10410236.2020.1844989>
- Shaw, C., & Nerlich, B. (2015). Metaphor as a mechanism of global climate change governance: A study of international policies, 1992–2012. *Ecological Economics*, 109(C), 34–40. <https://doi.org/10.1016/j.ecolecon.2014.11.001>
- Smith, N. W., & Joffe, H. (2009). Climate change in the British press: the role of the visual. *Journal of Risk Research*, 12(5), 647–663. <https://doi.org/10.1080/13669870802586512>
- Sopory, P., & Dillard, J. (2006). The Persuasive Effects of Metaphor: A Meta-Analysis. *Human Communication Research*, 28(3), 382–419. <https://doi.org/10.1111/j.1468-2958.2002.tb00813.x>
- Šorm, E., & Steen, G., (2018). VISMIP: towards a method for visual metaphor identification. In G. J. Steen (Ed.), *Visual metaphor: Structure and process* (pp. 47–88). Amsterdam: John Benjamins Publishing. <https://doi.org/10.1075/celecr.18.03sor>
- Steen, G. J., Dorst, A. G., Herrmann, J. B., Kaal, A., Krennmayr, T., & Pasma, T., (2010). *A Method for Linguistic Metaphor Identification*. Amsterdam: John Benjamins Publishing. <https://doi.org/10.1075/celecr.14>
- Stöckl, H., & Molnar, S. (2017). Eco-Advertising: The Linguistics and Semiotics of Green(-Washed) Persuasion. In A. F. Fill & H. Penz (Eds.), *The Routledge Handbook of Ecolinguistics* (pp. 261–276). New York: Routledge. <https://doi.org/10.4324/9781315687391-18>
- Väliveronen, E., & Hellsten, I. (2002). From “Burning Library” to “Green Medicine”: The Role of Metaphors in Communicating Biodiversity. *Science Communication*, 24(2), 229–245. <https://doi.org/10.1177/107554702237848>
- Vu, H. T., Blomberg, M., Seo, H., Liu, Y., Shayesteh, F., & Do, H. V. (2020). Social Media and Environmental Activism: Framing Climate Change on Facebook by Global NGOs. *Science Communication*, 43(1), 91–115. <https://doi.org/10.1177/1075547020971644>

## Note

Note 1. “A conceptual metaphor is a connection between two semantic domains. The domain that is talked of metaphorically is known as the *target domain*, and the domain that provides the metaphors is known as the *source domain*. The source domain is typically concrete and the target domain is typically abstract. [...] ideas and knowledge from the source domain are *mapped* onto the target domain by the conceptual metaphor” (Deignan, 2005, 14).

## Copyrights

Copyright for this article is retained by the author, with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).