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### **Newspaper communication on global warming: Different approaches in the US and the EU?**

Astrid Dirikx and Dave Gelders

#### **Abstract**

Global warming is one of the major policy challenges for contemporary societies. The construction and implementation of an environmental policy largely depends on public attitudes. Those public attitudes can be influenced by the mass media in several ways. Therefore, exploring the quality of the media coverage on global warming is important. So far content analyses of the communication on climate change have mostly focused on the USA and the UK press. Although the UK coverage has been examined several times, content analyses in other European countries are very sparse. Research of the EU coverage should be broadened, because previous research suggests that there might be differences in the way American and European media report on global climate change. Content analyses in the US press have shown that in many articles the emphasis is on scientific uncertainty. This critical reporting is less prominent in the UK, and in Germany the emphasis is on scientific certainty. On the other hand, the UK press reflects a very alarmist tone when it covers global warming and Germany describes global warming as a 'climate catastrophe', while US newspapers tend to use a more neutral tone. Because these results suggest that there might be differences between US and EU reporting, we argue that more research in Europe is needed and suggest a research method for pursuing it.

**Keywords:** global warming, climate change, press communication, USA, EU, cultural differences/influences

#### **1. Introduction**

From Al Gore's *An Inconvenient Truth*, to the Live Earth Concerts and the reports from the Intergovernmental Panel on Climate Change (IPCC), global warming was everywhere in 2007. Worldwide people are aware of and concerned about climate change (Corbett and Durfee, 2004; Lorenzoni and Pidgeon, 2006). As such, global warming is one of the major policy challenges for contemporary societies.

The construction and implementation of an environmental policy depends for a large part on public attitudes (Palfreman, 2006). A growing number of people state that they are concerned about the environment and the possible consequences of global warming. But several studies have shown that despite this concern, personal and social goals usually take priority over environmental issues. So in most cases the concern for global warming hasn't translated itself into an increase of actual ecological behaviour (Bord, Fisher and O'Connor, 1998; Lorenzoni and Pidgeon, 2006).

This paper will firstly outline that public attitudes on global warming can be influenced by the mass media in several ways. Because of this influence analyses of media-content are important. Therefore, some interesting findings from previous research on the communication on climate change will be discussed in the second part of this paper. Finally, it will be argued that there's need for more research on European press communication on climate change and a research method will be suggested.

## **2. The role of the media**

The mass media can play an important role in influencing people's attitudes towards global warming. First of all there are several studies that argue that most citizens' knowledge on scientific issues is provided by the mass media. Ungar (2000: 308) described science as 'an encoded form of knowledge that requires translation in order to be understood'. It is widely assumed that the mass media play an important role in that translation. One of the most cited sources to support this claim is Dorothy Nelkin. According to Nelkin (1987) people understand science mainly through media coverage and less through experience or education. This is especially the case for issues that do not have any tangible consequences for people (ibid.). The 'dependency theory' of Ball-Rokeach and DeFleur (1976) states that the influence of the media in the construction of meaning is dependent on how readily available meaning-relevant experiences are in people's everyday life. Most people do not have any experience of global warming, so the media can play an important role. Even if a person is confronted with circumstances of extreme heat, floods or drought, he or she will still often depend on the news to link those events to global climate change (Corbett and Durfee, 2005). Thus, the media help to generalize personal experiences and translate science into popular discourse.

Secondly, there have also been found media agenda-setting effects for environmental issues. The theory of agenda-setting states that the salience of an issue in the media has an influence on the importance attached to that issue by the public. It says that maybe the media cannot tell people *what* to think, but can tell people *what to think about* (McCombs and Shaw, 1972). In other words, the media seem to have the power to turn people's attention to global warming. Ader (1995) for example found that the emphasis of the world famous newspaper *The New York Times* on environmental pollution was positively correlated to the importance that

people assigned to that issue from 1970 to 1990. The conclusion of that and other studies was that media help to set the agenda for the public debate on climate change (Ader, 1995; Anderson, Atwater and Salwen, 1985; Gonzenbach and Hester, 1997).

Not only the amount of information that is provided by the media matters. The kind of information or the framing of the information also plays an important role. Entman (1993: 51-52) maintained that: 'To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described'. As such, McCombs et al. (1997: 6-8) labelled framing as 'second-order-agenda-setting'. Frames implicitly or explicitly emphasize certain aspects of a complex issue. In doing so, frames make it possible for the public to rapidly determine *why* an issue is important, *who* is responsible and *what* might be the consequences. Thus, the way in which the media frame global warming can have an important effect on public understanding of environmental changes and by consequence on the actions that people are willing to undertake.

Finally, the media in general play an important role in the social construction of risks (Douglas and Wildavsky, 1982; Fischhoff, 1995; Slovic, 2000). As noted earlier, the media help to generalize personal experiences. Theories of risk-perception have determined that people's fear of a phenomenon increases with the number of people they believe are exposed to the problem (Fischhoff, Lichtenstein and Slovic, 1980; Ungar, 1992). In addition risk-analysis has shown that the public is most fearful of risks that are unknown, unobservable, and have a high catastrophic potential (Palfreman, 2006). Global warming has all of those characteristics and the media can, by generalizing and framing, easily amplify the fears that people have (Kasperson, Pidgeon and Slovic, 2003). In other words, the media play an important role in the way the public perceive the risk of global climate change.

### **3. Previous research**

So far content analyses of the communication on climate change have mostly focused on the Anglo-Saxon media: the US prestige press and the UK national print press. Those studies resulted in some interesting findings.

#### **'Balance as bias'**

First of all, researchers have found that the journalists' urge for balanced reporting can be misleading in the case of global warming coverage. Instead of apportioning weight according to the balance of evidence, equal weight is given to the both sides of an argument. Boykoff and Boykoff (2004) undertook a study of the US prestige press coverage of global warming from 1988 to 2002. They state that there is a clear divergence of popular discourse from scientific discourse and that such a divergence is partly due to journalists' adherence to the principle of

balanced reporting. Firstly, they found that the majority of the US prestige press articles give equal attention to the view that global warming is anthropogenic as to the view that global warming is purely caused by natural fluctuations. That is a form of informational bias because the majority of the scientific community confirms that human actions are contributing to global warming. Secondly, almost eight out of ten articles featured a balanced view on what should be done about climate change. In those articles equal weight was given to the opinion that voluntary actions will suffice as well as to the opinion that mandatory actions are needed. That is a second form of informational bias because there is general scientific consensus that immediate and mandatory actions are necessary (Boykoff and Boykoff, 2004).

The US media's emphasis on scientific uncertainty has been found in several other studies too. Through a content analysis of US popular press articles about global warming from 1986 to 1995, Zehr (2000) found that scientific uncertainty was a salient theme (Zehr, 2000). And Trumbo's (1996) content analysis of five national US newspapers from 1985 until 1995 showed that scientists were ever less used as a news source while non-scientists, like politicians and special interest groups, were cited ever more. That change in the use of sources often led to an overemphasizing of the scientific uncertainty on global warming (Corbett and Durfee, 2005; Gelbspan, 1998). On the other side of the Atlantic, in Britain, the emphasis on scientific uncertainty was found to vary widely between newspapers (Carvalho, 2007).

By balanced reporting the (US) press thus systematically distorts the debate on climate change. A minority of climate skeptics gets the opportunity to proclaim their views and equal weight is given to the opinion of a scientist as to that of a non-scientist. Those opinions are of course far from equal in a scientific debate concerning global warming (Gelbspan, 1998). It is systematically implied that there is no scientific certainty. Balance therefore actually leads to bias. This bias makes it possible for the US government to dismiss responsibility and delay actions until there is more, so-called, certainty (Boykoff and Boykoff, 2004).

That emphasis on uncertainty is not without consequences for public perceptions of climate change. Corbett and Durfee (2004) found that readers of articles that emphasized controversy or uncertainty were less certain of global warming. The inclusion of controversy thus reduced perceptions of certainty. The results did suggest that an inclusion of scientific context may help to tone down the uncertainty, but in many articles that context is still missing (Corbett and Durfee, 2004).

### **Emphasis on drama**

A second interesting finding concerning global warming coverage is that, in general, the media tend to use a discourse that emphasizes drama. McComas and Shanahan (1999) state that news media actively construct narratives about global warming and that in these constructions journalists are primarily led by dramatic considerations. The media not only want

to cover exciting stories, they also want to construct those stories as exciting (McComas and Shanahan, 1999: 35-36). In search for drama, journalists will, as found for example in the US press, focus on conflicts between climate change 'defenders' and climate change skeptics or 'naysayers' (Brossard, McComas and Shanahan, 2004).

Studies in the UK show that the British media take this emphasis on drama a step further than the American press and use an overall overwhelming alarmist tone (Ereaut and Segnit, 2006; Hulme, 2007). Global warming is portrayed as a catastrophic and uncontrollable threat. A recent content analysis by Mike Hulme (2007) in the UK national print press examined the coverage of three Working Group reports of the Intergovernmental Panel on Climate Change. Results showed that alarmist and fatalistic discourses are more dominant than discourses that emphasize agency and empowerment. The language of catastrophe, fear, disaster and death seems to be dominant in British climate change reporting (Hulme, 2007). The media assume that by using that kind of discourse they will draw the attention of the public.

The problem is that dramatic and alarming media portrayals can be very counter-productive in bringing people closer to the problem of global warming and changing their behavior. Stressing conflicts between scientists leads, as mentioned before, to more public uncertainty (Corbett and Durfee, 2004). And an alarmist discourse can have a distancing effect. The 'protection motivation theory' (Rogers, 1983) states that when people are confronted with issues that are threatening but treatable, they will be motivated to change their behavior. But when the threat is bigger than the possibility to do something about it, then that can lead to a rejection of the proposed measures. So, by presenting climate change as an uncontrollable and extreme threat, people may get the impression that the problem is 'just too big to cope with' and that personal actions are not useful (Lowe, 2006; Rogers, 1983). In addition, a study by Cornelissen, Pandelaere and Warlop (2008) found that *positive* cueing of frequently performed ecological behavior – and not scare strategies – increased the amount of ecological choices that people make. Studies have shown that communication strategies based on fear, frequently fail in achieving the desired behavioral outcomes. Instead of bringing people closer to the issue, an alarmist repertoire can in that way distance the public from global warming (Dilling and Moser, 2004; Ereaut and Segnit, 2006).

### **Importance of ideologies**

A third interesting finding from previous research is the role that ideologies seem to play in the reporting on global warming. Carvalho and Burgess (2005) undertook a discourse analysis in three UK broadsheet papers (*The Guardian*, *The Times*, *The Independent*) over the period from 1985 to 2003. They found that values and ideological cultures are a key factor in explaining different interpretations of scientific knowledge on climate change by the media. In order to sustain their political preferences, the newspapers emphasize different aspects in the climate

change debate and assign different credibility to the claims-makers. In a later study Carvalho (2007) stated that ideology has implications for the interpretation of facts, that ideology is an important factor in the selection of experts and counter-experts and that the goals associated with knowledge also have an ideological basis.

The importance of ideological standpoints was further underpinned by another study about the UK media by Ereaut and Segnit (2006). In their content analysis of print press, radio, television and the internet, in the years 2005 and 2006, they found that there are several distinct linguistic repertoires on climate change in the UK. They came to the conclusion that certain ideological positions tend to draw on certain repertoires more than others. Overall, the left-leaning press recognizes the problem of global warming and calls for personal actions and innovations to deal with it. The right-leaning press on the other hand covers the problem of climate change, but often minimizes and undermines it with skepticism. Thus, in general we can say that ideologies play a role in the way the issue of climate change is constructed in the press.

#### **4. Need for more European research**

In general European governments are less reticent than the American administration about their actions against global climate change. The EU has politically supported and promoted the Kyoto Protocol and the UK has even taken up a leading role. The US on the other hand withdrew from Kyoto in 2001 (Lorenzoni and Pidgeon, 2006). That raises the question if those different political attitudes reflect in different reporting.

Although the UK coverage has been examined several times, content analyses of the media reporting on global warming in other European countries seem to be very sparse. We found some studies in Germany but, overall, European media have been much less analyzed than the American press. Therefore it would be very interesting to study this European coverage more extensively and compare results with those found in the US.

Some differences between the US and the European media coverage on climate change have already been found. As stated earlier, the US press strongly emphasizes the scientific uncertainty concerning global warming. Although that emphasis on uncertainty can be found in some British newspapers as well, Boykoff and Rajan (2007) state that this more critical reporting is less prominent in the UK than in the US (Boykoff and Rajan, 2007; Carvalho, 2007). In Germany, Krauss and von Storch (2005) found that climate skeptics hardly get any attention in the press and that the emphasis is on scientific certainty (Krauss and von Storch, 2005; Carvalho, 2007). Thus, this is a first indication of possible differences in media reporting on global warming between the EU and the US.

There have also been found differences in the tone that is used in covering climate change. It was pointed out earlier that the UK print press is characterized by an alarmist tone. When Mike Hulme (2007) compared the tone of front-page headlines of British and American

newspapers, he found that US newspapers tend to use a more neutral tone than the UK press. Although this was a small-scale study, it suggests that there might be significant differences between the tone that American and European media use in their coverage of global warming. Studies by Engels, Pansegrau and Weingart (2000) and by Krauss and von Storch (2005) in Germany support this assumption. Those two studies found that the German press labels climate change as a 'climate catastrophe' and thus also uses an alarmist tone (Engels, Pansegrau and Weingart, 2000; Krauss and von Storch, 2005).

In sum, because previous research suggests that there are differences between the US and the EU in their reporting on global climate change, it is necessary to analyze the European media more thoroughly. By using similar research questions and similar content analysis instruments as used in previous studies, the possibility of differences between the EU and the US can be analyzed. In addition, the coverage in the different European countries can be compared. Is media coverage in several EU countries similar, or are significant differences likely to be found?

## **5. Research method**

We propose a study that will focus on newspapers from several European countries. In the selection of countries we prefer that the UK and Germany will not be taken into account because several studies there have already been done and the aim is to expand European research. Possible interesting countries could be for example Belgium, The Netherlands and France because content analyses of the communication on climate change in these countries are to date non-existent or very sparse.

In these countries we suggest an analysis of the printed news press. Not only are newspapers a very interesting source of communication on climate change because they usually give more elaborate information than for example television news, but examining the print press also makes an optimal comparison with previous, mostly Anglo-Saxon, content analyses possible. In the selection of newspapers the focus should mainly be on quality newspapers. Elaborate articles with background information and opinion articles are most likely to be found in prestige press newspapers and analyses in that kind of newspapers also make comparisons with most previous research possible. On the other hand, many people do not read quality newspapers and opt for the more popular press. A complete lack of popular newspapers in the analysis therefore does not seem justified. In each country newspapers with different ideological standpoints should be analyzed, because then it will be possible to examine if the results found in the UK (Carvalho and Burgess, 2005; Carvalho, 2007; Ereaut and Segnit, 2006) are also found in other European countries.

The lapse of time covered by the articles would ideally be the last two decades. The starting point could be 1985, the year in which the ozone hole was discovered and the year in which one

of the first crucial scientific meetings in the field of climate change was held in Villach, Austria and the analysis could run up to 2007. Bearing in mind the limited time there usually is to do analyses, examining twenty years of media coverage on climate change in three countries may be too much. Therefore we suggest to start the analysis in 2007 and work backwards from then on. That way it will definitely be known how the recent media coverage on climate change looks and there is no risk of having to stop the analysis in for example 1995, without knowing how climate change has been covered in the last few years.

The content analysis should focus on four main questions:

1. Is there 'balance as bias' in the European newspapers? Is emphasis placed on controversy and scientific uncertainty or do climate sceptics get relatively little attention? To examine this the content analysis measures of Boykoff and Boykoff (2004) could be used. They distinguished two content analysis measures to examine balance as bias in the coverage of the debate over anthropogenic contributions to global warming and in the coverage of decisions regarding action against global warming.

2. In which ways is climate change framed? For example: is the human interest side of the issue emphasized, or is the focus on what might be the consequences of global warming? To examine this the frames that were distinguished by De Vreese, Semetko and Valkenburg (1999) could be used. They found that five frames constantly re-occur in newspaper coverage: a conflict frame, a human interest frame, a responsibility frame, a consequences frame and a morality frame. By using the coding measures of De Vreese et al. it could be examined which frames are mostly used in covering climate change.

We conducted this kind of deductive frame-analysis on quality newspapers in France and the Netherlands (Dirikx and Gelders, accepted/in press). The results showed that the most frequently used framing methods were the consequences frame and the responsibility frame. Many of the articles made reference to the consequences of the (non-)pursuit of a certain course of action and of possible losses and gains (consequences frame). Additionally, a large number of the articles mentioned the need for urgent actions, referenced possible solutions and suggested that certain levels of government are responsible for and/or capable of alleviating climate change problems (responsibility frame). These findings are in accordance with our earlier suggestion that the European media focus on the scientific certainty concerning anthropogenic climate change and the need for mandatory actions.

An additional research question could be which themes are most prominent. The themes that were distinguished by McComas and Shanahan (1999) in their study *Telling stories about global climate change* can be used as a starting point.



3. What is the tone of the reporting? Do the articles reflect an alarmist or a more neutral tone? For each article it could be analyzed which linguistic repertoire of those distinguished by Eereaut and Segnit (2006) it reflects. They found twelve repertoires that can be combined into three main groups: the 'alarmist discourse' that uses the language of fear and disaster, the 'optimistic discourses' that reflect a tone of 'everything is going to be alright' and the 'pragmatic optimistic discourses' that have an underlying tone of 'everything is going to be alright, as long as we do something about it'.

4. Do different ideological standpoints reflect in different reporting? Do the left-leaning and the right-leaning press frame their articles about global warming in a different way? Do they use a different tone?

Apart from those four main issues, morphological characteristics and structural organization of the articles like size, page number, section and headlines, could also be analyzed.

By means of such content analyses we hope to shed some more light on European climate change reporting and analyze potential differences in reporting between the EU and the US, and amongst European states.

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