

An Analysis of Environmental Advertising Frames from 1990 to 2010

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ABSTRACT

Recent calls in environmental communication literature suggest researchers should understand the relationships between media message content, message construction, and audience effects. This thesis analyzed environmental advertising frames over time to inform strategic environmental communication research and practice. The study was a media content analysis guided by framing theory. Framing theory asserts the construction of media messages involves the selection and salience of particular message characteristics (Entman, 1993). Thus, the analysis examined the characteristics of environmental advertisements ($N=449$) published in *Newsweek*, *Time*, and *U.S. News and World Report* in 1990, 2000, and 2010. Advertisements were classified based on whether the environmental appeal was issue-specific (e.g., pollution, species/habitat protection) or generic. Findings indicate that responsibility frames were overwhelmingly dominant as the strategy used to advertise products, goods and services. The responsibility frame was also prevalent in issue-specific ads. Macro-frames, which attempt to identify organizing lenses through which environmental advertising appeals are advanced, were not present in advertisements at significant levels during the time periods analyzed. The species/habitat protection issue was the dominant issue in 1990, while energy efficiency was the prevalent issue in 2000 and 2010. Advertisements appearing in the newsmagazine pages primarily were sponsored by for-profit organizations. Environmental advertisements had an overwhelmingly positive valence over time. Results have implications for future environmental communication research exploring media content and effects, public opinion and persuasion, and strategic communication practice.

To my family and friends, the best support system I could hope for

To those whose research strives to make the world a better place

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Chapter One

Introduction

The environment poses many challenges to our present society. Environmental concerns pervade the news and position the environment as a salient and prominent topic of discussion in the public sphere. Environmental documentaries and campaigns continue to produce compelling arguments for the adoption of alternative energy sources and sustainable living habits. Companies continue to “go green” by marketing eco-friendly products and engaging in socially responsible initiatives. Many organizations (environmental and non-environmental) promote environmental ideas through strategic communication, such as advertising campaigns shown on television, and publicity disseminated through news outlets, blogs, and online videos. Corporations frequently attempt to align their products with environmental values in marketing messages. Amid corporate efforts to disseminate environmental messages, environmental advocacy groups vie for opportunities to spread their messages to various audiences. Accordingly, understanding the landscape of mediated environmental content is important to understanding the effects media might have on the environmental perceptions and behaviors of its receivers.

Recently, Cox (2010) called for research to mobilize audiences to engage in pro-environmental behavior. Ahern (2011) called for research connecting environmental communication theory with strategic communication practice. He suggests that more work needs to inform scholarly understanding of message-framing effects in the context of environmental messages (Ahern, 2011). He asserts that understanding effects relationships, such as the link between the structural elements of messages and heuristic processing of audiences, is a way to advance the field of environmental communication and complement our current lack of understanding. Hansen (2011) echoed this argument as he called for environmental communication research to inform understanding of the relationships between mediated content, its production, and its effects. These suggestions are timely if producers of environmental messages (be they corporate, non-profit, or government) are to improve the efficiency of their communication. As a move in that direction, this thesis aims to improve understanding of mediated environmental content to inform future strategic communication research. Heeding recent scholarly calls, this thesis informs understanding of environmental media content over

time and informs future research that seeks to understand the relationships that exist between environmental media content, message production, and media effects.

Understanding and testing effects of mediated environmental communication on various audiences requires a rich understanding of environmental messages and trends through systematic analyses. Longitudinal research identifies trends and documents shifts in message strategies over time. Longitudinal studies permit comparative analyses, where shifting trends in mediated content can be documented over time and compared to previous research. In addition, longitudinal analyses allow researchers to isolate specific variables according to shifting trends. Following identification of environmental messages and trends, researchers are better able to manipulate and test dominant message types to measure their effects and inform strategic campaign practice. Advertising is a component of strategic communication. Advertising and strategic communication are goal-directed and attempt to influence a target audience. Strategic communication is two-way asymmetrical, but it is not necessarily relational. Advertising is a form of strategic communication in which an organization pays to create and control the elements of a strategic message. That advertising message is then disseminated with the goal of influencing a target audience. This thesis aims to enhance academic understanding of environmental advertising content by analyzing and comparing data from 1990 to 2010. The results inform academics and practitioners about longitudinal environmental advertising trends, which future research can isolate and test on various audiences in laboratory or non-laboratory environments. Such research can explore the boundaries of framing effects to examine the potential opportunities and limits of various environmental advertising frames. Results from this study complement the existing research agenda established by environmental communication scholars and aid in informing strategic environmental campaigns.

Environmental advertising research peaked in the 1990s (Corbett, 2002). Two particular studies (Banerjee, Gulas, & Iyer, 1995; Carlson, Grove, & Kangun, 1993) provided the research community systematic assessments of environmental advertising appeals. However, the data for these analyses are two decades old. While these studies explored common environmental appeals and claims prevalent in advertising two decades ago, environmental advertising content and the environmental issues changed since these studies were published. In the time between these previous publications and the current study, many scholars explored the various ways media messages were framed. Thus, research examining environmental advertising message appeals

warrants revitalization. As a study in strategic environmental communication, this thesis aims to continue where prior research stopped. Therefore, this thesis compares environmental advertising content from 1990, 2000, and 2010.

A rich understanding of environmental advertising content aids researchers not only in understanding message strategies but also in creating research studies to test strategies employed by advertising sponsors. To understand advertising content from a communication perspective, the systematic content analysis reported in this study is informed by framing theory and the categorical classifications derived from framing research. Framing theory is used in this thesis because it is concerned with the “selection” and “salience” of message content (Entman, 1993). Framing theory provides the lens to examine message features, particularly message frames, in environmental advertisements to see how environmental advertising sponsors portray or “frame” environmental messages. As such, the goal of this thesis is to discover the types of frames used in environmental advertising and to identify possible shifts or trends in advertising content.

Entman (2007) defined framing “as the process of culling a few elements of perceived reality and assembling a narrative that highlights connections among them to promote a particular interpretation” (p. 164). Moreover, a frame is “a central organizing principle that holds together and gives coherence to a diverse array of symbols of idea elements” (Reese, Gandy, Grant, 2001, p. x). This definition assumes advertising sponsors select message elements that are salient in an advertisement. Therefore, a frame is an explicit message structure created by an advertising sponsor with the goal of promoting a specific interpretation. For example, if an advertisement highlights a company’s leadership in sustainability initiatives and omits other information, the goal of the advertisement is for viewers to see the company as a leader in environmental stewardship. This study examines how environmental message content is framed in environmental advertisements to reveal the manifest “frames” present in those ads. As the literature review reveals, framing theory has broad application in media content research. Additionally, many environmental communication scholars already identified various ways media, particularly the news media, frame the environment. While previous environmental communication research employed framing methodologies, much of this research focused on the framing of specific environmental issues. This thesis examines the prevalence of environmental issues in three distinct time periods and analyzes the strategies advertisers used to frame these issues.

This study extends and updates the existing literature by analyzing environmental content found in the advertisements of the three most influential (Reed, 1998) U.S. newsmagazines: *Time*, *Newsweek*, and *U.S. News and World Report*. These newsmagazines were chosen in particular since they have traditionally had the largest newsmagazine circulations in the United States (Reed, 1998). Many scholars have studied magazine and newsmagazine content (Riffe, Lacy, & Drager, 1996), which offers a systematic basis for comparative research. Since this study is a content analysis of media content over time, the study relies on historically relevant media for analysis.

This thesis is not a media effects study and cannot validate potential framing effects on various audiences. However, results found in the manifest content of these environmental advertisements have implications for future research exploring effective strategic communication, media effects, two-step flow of information, public opinion, and environmental public policy. Results from this content analysis inform readers of prevalent environmental frames and content in advertising. Results also complement the discussion and understanding of media effects and their implications for building communication theory and for informing strategic communication practice.

This study defines an environmental advertisement as any paid advertisement displaying a primary message that contains explicit environmental appeals. For this study, full-page or larger magazine advertisements appearing in *Newsweek*, *Time*, and *U.S. News and World Report* are included in the analysis. Furthermore, content criteria established by Banerjee, Gulas, and Iyer (1995) were used to help identify ads for inclusion. Criteria included the explicit promotion of a green product, service or idea, the promotion of a green lifestyle, or the promotion of a green corporate image. This study clearly distinguishes environmental advertising from other types of advertising to ensure a comprehensive sample of environmental advertisements appearing in years 1990, 2000, and 2010.

A systematic analysis of environmental advertising is timely and necessary to broaden and reaffirm current understanding of controlled environmental content in paid media. As a revitalization of research conducted nearly two decades ago, this study aims to identify trends in advertising frame strategies that occurred in environmental advertisements over the last twenty years. This thesis answers the call for more studies to enhance scholarly understanding of message framing and aims to bridge the theory-practice divide. This thesis enhances academic

understanding of content and strategies used in environmental messages. It also informs advertisers and strategic communicators of trends and opportunities in environmental advertising content by revealing the characteristics in environmental messages over time. This content analysis provides an important framework for understanding environmental advertising content and serves to inform future strategic communication campaigns and media effects research as to types of appeals that should be tested to understand effects of typical advertising strategies.

Chapter Two

Context

The purpose of this chapter is to provide a context for environmental policy and public opinion from 1990 to 2010 and to provide a context for environmental advertising research during the same period. As previously mentioned, the current study examines advertising content from 1990 to 2010.

Political Context

Environmental Policy.

Concern for the environment and environmental regulation has a long history (see “Environmental history,” n.d.). Therefore, understanding the context of key U.S. environmental legislation is important since prior legislation (e.g., 1970s and 1980s) held implications for advertising decisions in the 1990s and beyond. Additionally, forthcoming legislation (e.g., 2005) may have influenced the advertising strategies used in years beforehand (e.g., 2000). This section situates the context of environmental policy for this thesis. Moreover, Table 1 provides a timeline of key environmental policy from 1960 to 2010 to contextualize the timeframe analyzed by this thesis.

The 1960s was a time when public opinion polls indicated a legitimate concern for the environment and an increasing anger among citizens regarding environmental pollution (Kline, 1997). Events such as the publication of Rachel Carson’s *Silent Spring* in 1962 sparked public discussion and aroused public environmental awareness. As such, the United States saw the adoption of key environmental legislation during this time period. In fact, Congress passed legislation aimed at enhancing water and air quality. In 1960, Congress passed the Clean Water Act to mitigate pollution in U.S. waterways (“The sixties,” n.d.). Congress passed the original Clean Air Act in 1963 as the first form legislation designed to control air pollution in the United States (“History of,” 2011). This legislation “established funding for the study and the cleanup of air pollution. But there was no comprehensive federal response to address air pollution until Congress passed a much stronger Clean Air Act in 1970” (“Understanding the,” 2011, para. 2).

The 1970s also saw key pieces of environmental legislation enforced. In fact, 1970 was a victorious year for the environmental movement with the creation of Environmental Protection Agency, the first Earth Day on April 22, and the passage of the Clean Air Act Amendment on

December 31. While environmental regulation continued to increase (as shown in Table 1), the U.S. Chamber of Commerce cautioned in 1971 that anti-pollution regulation might be too strict if industries (e.g., automobile) were to stay in business (“The seventies,” n.d.). However, the United States maintained a relatively stable agenda for producing environmental legislation. Amid pollution concerns in the early 1970s, Congress also passed legislation protecting wildlife. Congress passed the Endangered Species Act in 1973. This legislation established “a program for conserving endangered and threatened species and their habitats” (“Endangered Species,” 2012, para. 1). The act covers endangered animals and plants and prohibits any interference with the habitat of a species listed as endangered. Additional policy devoted to species protection appeared during the 1970s (e.g., Marine Mammal Protection Act in 1972; Whale Conservation and Protective Study Act in 1976). Legislation continued to advance plant and wildlife protection in the 1980s (e.g., International Environmental Protection Act in 1983); however, policy concerning hazardous wastes also emerged.

The 1980s witnessed global chemical disasters (e.g., Bhopal, India; Chernobyl) that led to a focus on policy designed to regulate handling of hazardous wastes. For example, the Nuclear Waste Policy Act in 1981 and the Hazardous and Solid Waste Amendments in 1984 regulated the storage and disposal of hazardous wastes. Additional legislation established guidelines for hazardous waste clean-up and provided safeguards for human health and information regarding hazardous waste exposure (e.g., Emergency Planning and Community Right to Know Act in 1986; Superfund Amendments and Reauthorization Act in 1986). However, policy aimed at pollution mitigation led into the 1990s (see Table 1).

In 1990, the U.S. Congress passed the Clean Air Act Amendments. These amendments “dramatically revised and expanded the Clean Air Act, providing EPA [the Environmental Protection Agency] even broader authority to implement and enforce regulations reducing air pollutant emissions” (“Understanding the,” 2011, para. 3). The Environmental Protection Agency’s report to Congress in November 1999 highlighted the importance of these amendments. The report discussed the EPA’s plan to assess the benefits and costs of the Clean Air Act periodically from 1990 to 2010. As shown in this report, the EPA conducted research to predict air pollution emissions in 1990, 2000, and 2010 and considered the economic, environmental, and public health consequences of emissions and uncertainties. The report

concluded, “the Clean Air Act Amendments’ total benefits to society exceed its costs” (Environmental Protection Agency, 1999, p. v).

The North American Free Trade Agreement (NAFTA) was established in 1993 and went into effect in 1994. NAFTA is a trade agreement between the United States, Canada, and Mexico promoting economic development (Chambers, 2006). Side treaties required cooperation with environmental and labor regulations and went into effect under NAFTA. NAFTA’s environmental provision was the North American Agreement on Environmental Cooperation. This provision reaffirmed “the importance of the environmental goals and objectives of the NAFTA, including enhanced levels of environmental protection” (Commission for Environmental Cooperation, 2012, para. 7). Such legislation suggested American governmental interest in promoting economic growth while maintaining concern for the environment.

In December 1997, the United Nations Framework on Convention on Climate Change met in Kyoto, Japan and adopted the Kyoto Protocol. The treaty established “binding targets...for reducing greenhouse gas (GHG) emissions” (“Kyoto Protocol,” 2012, para. 1) in participating countries. The protocol was enforced beginning February 16, 2005. Although it is binding, the protocol offers market-based means to regulate countries’ emissions. However, the United States did not sign the treaty. Nonetheless, Congress passed the Energy Policy Act in 2005 to encourage the use of innovative technologies that mitigate greenhouse gas emissions (“Summary of,” 2012). The United States introduced its own market-based initiatives to regulate pollution emissions though. Cap and trade programs, administered by the EPA, “have been primarily focused on the electricity generating sector” (“Cap and trade programs,” 2012, para. 1) and enforced to regulate air emissions in the United States. The EPA describes cap and trade programs as follows:

Cap and trade is an environmental policy tool that delivers results with a mandatory cap on emissions while providing sources flexibility in how they comply. Successful cap and trade programs reward innovation, efficiency, and early action and provide strict environmental accountability without inhibiting economic growth. (“Cap and trade,” 2012)

Environmental regulation during this time seemed to link economic growth with a concern for the environment. However, some were not satisfied with environmental policy initiatives and the level of public participation with environmental issues. Global warming remained the dominant

issue in the environmental movement (Ahern, 2011; Hansen, 2011). Vice President Al Gore released the documentary *An Inconvenient Truth* in 2006, which attempted to educate and raise awareness about global warming. Although the documentary sparked news coverage of the global warming issue (Hansen, 2011; Nisbet & Kotcher, 2009), Americans remained relatively disconnected from the issue (Nisbet & Kotcher, 2009; Nisbet & Myers, 2007). While environmental policy and public opinion polls during this time indicated a level of public concern for the environment, the environment may not have been the most salient public issue.

Public Opinion.

Though there are many ways to operationalize public opinion, a common theme in research is that public opinion is the product of “discussion, debate, and collective decision making” (Price, 1992, p. 91). Some view this conceptualization as problematic because “opinions are reactions of individuals...[which] cannot be allocated to publics without becoming ambiguous and unintelligible for research” (Allport, 1937, p. 9). However, some public opinion scholars distinguish “polled opinion” from “popular opinion.” Polled opinion refers to responses collected from a poll, and popular opinion refers to the “opinions of the populace” (Dodd, 1956, p. 572). This distinction appreciates the dialectic nature of public opinion as both a concept for description and a variable for measurement. This thesis adopts Price’s (1992) definition of public opinion as an “aggregation of individual opinions” (p. 22). Pollsters who attempt to measure opinions take this perspective.

Corporations, non-profit organizations, and government agencies battled over environmental regulations in the context of “ideological conflicts between the two major political parties and pervasive and intensive lobbying by business interests and environmental groups” (Klyza & Sousa, 2008, p. ix). For example, Dr. Frank Luntz, a Republican Party consultant, advised “politicians to encourage the public to view that there is no scientific consensus on the dangers of greenhouse gases” (Burkeman, 2003, para. 2) in the context of global warming. He recommended that republicans redefine “global warming” as “climate change” to capitalize on the scientific uncertainty surrounding the debate (Burkeman, 2003, March 3). Luntz (2009) acknowledged that Americans “have come to the collective decision that it is socially and morally unacceptable for people, governments, or corporations to pollute the air or foul the water—regardless of economic consequences” (p. 8). Therefore, he suggested, “Americans really want *energy efficiency*” (Luntz, 2009, p. 10). The term “efficiency” was favored over

“conservation” because Americans were “seeking ‘better use of natural resources’ rather than ‘conserving natural resources.’” (Luntz, 2009, p. 10).

Corporations, non-profit organizations, and government agencies all recognized the influence of environmental regulations on business and society, and thus, the importance of incorporating pro-environmental business practices and norms to facilitate favorable public opinion. Consequently, environmentalists were not the only groups promoting a “green” agenda, as corporations “launched impressive sustainability initiatives both to improve their bottom line and to bolster their corporate image” (Klyza & Sousa, 2008, p. ix). Image advertising was used to boost corporate reputations and portray corporate depictions of social responsibility.

Environmental concern among corporations, non-profit organizations, and government agencies during this timeframe may reflect environmental public opinion. In fact, “public support for environmental protection not only...persisted but also...[rose] substantially” (Dunlap & Scarce, 1991, p. 651) in the years leading up to 1990. Polled citizens favored environmental protection over economic growth from 1990 to the heightening of the economic recession in 2009 (Jacobe, 2012). However, economic development became the priority afterward. The Gallup Organization frequently polls Americans to discover the “Most Important Problem” (MIP) facing America. Issues such as “economic problems and national security” (Dunlap, 2006, p. 91) historically lead MIP answers. Moreover, “environmental issues have seldom been volunteered by more than 1% to 2% of Americans in response to open-ended MIP questions” (Dunlap, 2006, p. 91). These results suggest a relatively stable public concern for the environment although the environment may not be the most salient issue in the public sphere.

Recent scholarship in environmental communication identified the particular role opinion leaders can play in awareness campaigns by augmenting environmental political participation (Nisbet & Kotcher, 2009). Specifically, opinion leaders play a key role in disseminating information and influencing the opinions of less-informed publics, not only by sharing information but also by telling people how to act. According to Nisbet and Kotcher (2009), corporations recognize the role opinion leaders play in influencing public opinion. They strategically target opinion leaders to influence the grassroots flow of opinion. The researchers called for environmental campaigns to appeal to opinion leaders and for research to test the types of appeals that engage opinion leaders (Nisbet & Kotcher, 2009).

Advertising's influence on public opinion may be direct or indirect. A direct effect assumes media exposure influences the message receiver in some way. An indirect effect assumes media content reaches audiences directly or indirectly through means such as public discussion and debate. For example, research argued that opinion leaders facilitate media messages to others (Katz & Lazarsfeld, 1955/2006). However, "the influence of public opinion on political outcomes is difficult to" (Converse, 1987, p. S23) measure, and this study cannot validate the influence of advertising content on audiences. Nevertheless, the way an environmental advertisement is framed (see Entman, 1993; 2007) might influence the way an environmental topic is perceived, and thus, how it is discussed in public. Findings in this thesis may suggest reasons for the way environmental issues were covered and discussed in the public sphere since "media actively set the frames of reference" (Scheufele, 1999, p. 105) people use to understand and discuss events. Media content frames influence the way people think about content and might influence "decision making about matters of public policy" (Price, Tewksbury, & Powers, 1997). Therefore, a transfer between frames constructed in media and audience cognitions surrounding the content is likely. Findings in this thesis do not claim to show direct media effects on public opinion, but will be discussed as possible implications or explanations for public opinion.

Reliance on a sample of historically prominent media, such as the three U.S. newsmagazines utilized in this longitudinal study, was important since newsmagazines have received much attention from previous communication scholarship (Riffe, Lacy, & Drager, 1996). This study acknowledges the fragmented nature of the "mass audience" today (Bennett & Iyengar, 2008) in addition to the increase in Americans' use of the Internet to seek political information (Xenos & Moy, 2007). These considerations are addressed in the discussion section of this thesis. However, many previous studies analyzed these three newsmagazines because opinion leaders (i.e., business executives, media executives, and government officials) relied on these magazines as sources of information (Weiss, 1974). In fact, Stempel and Hargrove (1996) found a correlation between an increase in education level and an increase in use of print media (i.e., newspapers, news and political magazines) and radio news as sources of information. Given that prior environmental communication research examined frames in environmental news coverage, analysis of advertising content in newsmagazines is a natural progression.

Research Context

Recently, scholars focused on informing effective environmental strategic communication (e.g., Ahern, 2011; Brulle, 2010; Cox, 2010). In the context of climate change communication, Cox (2010) asserted that much research focused on “discursive representations, framing, and perceptions of climate change itself and its seriousness” (p. 123) while failing to examine “relationships among specific communicative efforts and their strategic or consequential potential within the economic, political, and ideological systems in which energy policy is embedded” (p. 123). His suggestion highlighted the need for environmental communication research to examine the interplay of communication between various systems of influence that shape environmental policy. Later, Hansen (2011) urged environmental communication researchers to observe the relationships between message content, message production, and message effects on various audiences. His concern arose from the observation that a majority of “what we learn and know about ‘the environment,’ we know from the media, broadly defined” (Hansen, 2011, p. 8). Such studies, he argued, would permit exploration of how message frames influence recipients’ environmental knowledge and behaviors. Ahern (2011) called for research to inform generalizable frames in environmental messages, so academics could examine the relationship between environmental message content and audience processing.

Considering these calls for inquiry, this thesis informs a greater understanding of the message frames present in environmental advertising. While this thesis acknowledges that many previous studies examined media frames, many of these analyses focused on coverage of specific issues (e.g., climate change) or events. Additionally, recent systematic analyses of environmental advertising content are scant. Therefore, this study fills the research void as a longitudinal content analysis aimed to identify trends in environmental advertising frames. Analysis findings provide evidence of variations in advertising frames over time. These findings also provide insight into the essential nature of norms and values “in determining the extent and framing” (Hansen, 2011, p. 14) of environmental content, specifically regarding advertising sponsors. Research shows that although some publics may not understand the complexities of environmental issues, they often rely on persuasive messages to receive information and to enable understanding about them (O’Keefe & Shepard, 2002). As research is able to identify prevalent frames in environmental advertising, academics and practitioners will understand the

relationship between how environmental messages are framed and how those messages influence understanding and discussion of message content.

Since media play a key role in establishing public opinion (Gamson & Modigliani, 1989), understanding media content and its implications is important. Therefore, this study seeks to understand the content in environmental advertising messages that may influence audiences. As previously mentioned, Hansen (2011) called for environmental communication research to reconnect the relationships of media content, media production, and message effects on public understanding and actions in relation to the environment. This thesis is a step in that direction.

Chapter Three

Literature Review

Theoretical Justification

An abundance of communication scholarship explored media framing and its effects on message recipients. Framing studies are primarily divided into two distinguishable categories: media studies—in which media content is the subject of inquiry—and audience or “interpretive” studies—in which a message recipient’s schema or framework for understanding messages is the subject of inquiry (de Vreese, Peter, & Semetko, 2001). In either case, framing involves “selection and salience” (Entman, 1993, p. 52) of information. The way a media message is framed refers to the way in which the message favors particular values and how those values may influence message recipients. Entman (1993) asserted the purpose of media content research is to determine and distinguish the content that is manifest in mediated messages. This approach, as defined by Entman, assumes that frames “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” (p. 52). This thesis follows Entman’s (1993) definition of framing as a way to study media content frames. Application of this particular framing definition assumes the schemata of the message creator may influence the message recipient in some way after exposure to the controlled media message. Research examining media content is necessary to facilitate understanding of the relationship between media, policy processes, and the public sphere. Media cover relevant issues in the public sphere and influence the ways in which audiences perceive those issues (Nisbet & Lewenstein, 2002). Accordingly, framing analysis is a plausible tool for examining coverage of political issues and how coverage correlates to public perceptions of those issues (Semetko & Valkenburg, 2000).

Many scholars explore and apply framing methods to various content domains, which enhances scholarly understanding of framing theory. As previously noted, framing may be viewed from an audience framing perspective or a media framing perspective (Scheufele, 1999). Audience frames are defined as the production of packaged interpretive schemata, where public opinion and media messages interact with each other to create meaning for message recipients (Gamson & Modigliani, 1989). This idea of frames as interpretive packages is demonstrated in

existing audience framing scholarship (e.g., Gamson & Modigliani, 1989; Lakoff & Johnson, 1980). The other area of framing research is the study of media content frames. Media framing studies examine manifest content resulting from the construction of mediated messages. This line of research looks at message characteristics, such as the types of appeals used in mediated messages. This thesis is a media content framing study. As such, this study was informed by media content framing studies rather than audience framing studies.

Previous literature identified inductive and deductive analysis as two approaches used to examine media content (Semetko & Valkenburg, 2000). If a researcher uses an inductive analytic approach to study media content, the researcher approaches the media content without categories or with loosely prescribed categories for identifying content. The goal of inductive analysis is “to attempt to reveal the array of possible frames” that exist in mediated messages (Semetko & Valkenburg, 2000, p. 94). Such an analysis allows researchers to account for manifest message content that might not be examined in previous research. In contrast, deductive analysis adheres to prescribed framing categories established by previous research. Deductive analysis uses categories prescribed by previous research as a basis to examine manifest media content. Such an analysis allows researchers to compare results with previous research findings to build a body of knowledge.

This thesis adopted a deductive analytic approach, in which coders were given prescribed variables in a codebook (See Appendix) to account for manifest content as prescribed by categories demonstrated by prior research. In fact, previous research identified frequently occurring frames, which make replicating and building from prior research possible (Semetko & Valkenburg, 2000). This project applies prior frame classifications to environmental advertisements since prior framing studies of environmental ads do not supply a rich foundation. While this thesis acknowledges prior research on framing effects, much of this research examined news content. This study analyzed manifest content in environmental advertising to further validate the framing literature and to inform future framing effects studies. A rich understanding of environmental advertising content is pertinent to understanding strategies advertisers use to communicate environmental appeals.

For the purpose of this study, advertising was distinguished from “media” and “strategic communication” as a type of paid message in which an advertising sponsor is able to control message content. Frames in advertising are assumed to influence audience cognition. For

example, the way an advertisement is framed might privilege a particular way of thinking about an environmental issue. However, the way an environmental advertisement is framed might also have an indirect influence on the shaping of public discussion of an environmental issue (Katz & Lazarsfeld, 1955/2006). Additionally, the present study drew from prior literature focusing on framing content rather than framing effects. As with prior research (Gamson & Modigliani, 1989), this thesis does not assume that manifest content or shifts in content dictate shifts in public opinion. While the testing of media effects and public opinion was not the focus of this study, discussion following this study's results offers potential implications for framing effects research. The following section discusses prior research that prescribed frame types, which traditionally occur regardless of context.

Framing and Frame Classifications

Many scholars offered classification categories for assistance in understanding frames and frame types. Political advertising frame classifications informed this thesis. These frame classifications were derived from prior research examining political news coverage (e.g., Constantinescu & Tedesco, 2007; de Vreese & Boomgarden, 2003; Semetko & Valkenburg, 2000). However, the difference in news coverage and advertising must be distinguished. The goal of news coverage is to inform the public by reporting news. Gatekeepers frame the news in a particular way, which influences the way news coverage is interpreted (Price, Tewksbury, & Powers, 1997). An advertising sponsor pays for and controls the message characteristics in an advertisement to promote a specific way to interpret ad content. Therefore, news content and advertising may use the same frame classifications but both have distinguishable goals.

Frames are typically categorized as generic or issue-specific. Generic frames transcend contextual factors while issue-specific frames revolve around a particular topic (de Vreese, 2003; de Vreese, Peter, & Semetko, 2001). In a study of news frames and European politics, Semetko and Valkenburg (2000) examined Dutch newspaper stories ($N=2,601$) and television news stories ($N=1,522$) from May 1 to June 20, 1997. This time was the period encompassing discussions among European Union officials creation of a uniform currency. The study examined the presence of five media frames that had been established from previous research, now known as generic frames. Generic frames were responsibility, human interest, consequences, morality, and conflict. These frames commonly occur in media and transcend specific contextual factors such as issue coverage (Semetko & Valkenburg, 2000). The conflict frame accentuates “conflict

between individuals, groups, or institutions as a means of capturing audience interest” (p. 95). The morality frame highlights “the event, problem, or issue in terms of the consequences it will have economically on an individual, group, institution, region, or country” (p. 96). The responsibility frame “presents an issue or problem in such a way as to attribute responsibility for its cause or solution to either the government or to an individual or group” (p. 96). The human interest frame “brings a human face or an emotional angle to the presentation of an event, issue, or problem” (p. 95). The economic consequences frame “reports an event, problem, or issue in terms of the consequences it will have economically on an individual, group, institution, region, or country” (p. 96).

The responsibility frame was found to be most prevalent in Dutch news coverage, followed by frames of conflict, economic consequences, human interest, and morality; however, the prevalence of news frames varied by media outlet and topic discussed (Semetko & Valkenburg, 2000). Operational definitions of the generic frame categories in this thesis are listed in the method section and the codebook in the Appendix.

Constantinescu and Tedesco (2007) extended previous research in the context of Romanian online newspaper coverage and discussion forums regarding three Romanian journalist kidnappings. The study examined news stories ($N=255$) and subsequent online reader forum posts ($N=2,491$) and identified the presence of macro-frames—cynicism, speculation, and metacommunication—that are consistently found in media messages. The researchers distinguished macro-frames from generic frames as frames that “function as the foundation upon which the generic frames are constructed” (Constantinescu & Tedesco, 2007, p. 450). In other words, macro-frames can exist in any generic or issue-specific frames that are identified within media content. The researchers defined cynicism, speculation, and metacommunication in the following ways. The cynicism frame is “associated with powerlessness or sarcasm/irony” (p. 452). The speculation frame is characterized as “either predicting a course of action or providing hypothetical explanations for what happened” (p. 452), and the metacommunication frame refers to “communication about others’ communication” (p. 452). Operational definitions of macro-frame categories in this thesis are listed in the method section and the codebook in the Appendix.

Research suggests the way a message is framed implies an “inherent *valence* by suggesting, for example, positive or negative aspects, solutions or treatments” (de Vreese & Boomgaarden, 2003). Findings suggest the positive or negative tone in the framing of mediated

content influences public opinion and, in turn, public policy and political support (de Vreese & Boomgaarden, 2003). As such, frame valence was examined in this thesis to understand the tone of environmental advertising frames. Operationalization of frame valence is found in the method section and the codebook in the Appendix. Considering previous framing literature, however, the following research questions were asked:

RQ 1a: What frame classifications are dominant in the environmental advertisements during 1990, 2000, and 2010?

RQ 1b: What, if any, shifts in environmental advertisement framing occurred from 1990 until 2010?

RQ 2: Is the primary frame valence of U.S. newsmagazine environmental advertising positive, negative, or neutral?

A host of studies that analyzed environmental content in media over various time periods and contexts are discussed in this section. While this research does little to inform generalizable trends in environmental advertising frames, these prior studies identify previous frame types that were present in environmental media that were both paid (i.e., advertising) and earned (i.e., news stories). Environmental advertising in the context of framing studies is discussed first to reveal and adapt methods and categories from prior research. Then, a discussion of news content and environmental framing reveals how environmental communication researchers previously studied environmental media content. Results from these studies are discussed. This section ends by summarizing the intent of this thesis and the research need this study fills.

Environmental Advertising

Ad Sponsorship.

“Because of its ubiquity, advertising is one of the most influential sites of meaning construction” (Hendry, 2010, p. 196). Advertisers have “marketed” the environment since the 1980s (Corbett, 2002). Companies have strategically aligned themselves with a green corporate image ever since. From 1990 to 2010, the media landscape “witnessed considerable changes in source/claims-making practices, including a significant rise in public communication efforts, PR and diverse forms of ‘spin’ and news management” (Hansen, 2011, p. 11). As such, environmental advertising was a frequent topic of inquiry in the 1990s (Corbett, 2002). Previous

literature produced some interesting findings that provided a foundation for this thesis.

Environmental marketing literature in the 1990s seemed concerned with message appeals in environmental advertising. For example, Carlson, Grove, and Kangun (1993) examined a sample of print advertisements ($N=100$) to identify different types of orientations and deceptive claims in environmental advertisements. The researchers established a typology for classifying environmental advertisement claims. In other research, Banerjee, Gulas, and Iyer (1995) examined environmental advertising aired on television between 1991 and 1992 ($N=95$), and published in print sources between 1987 and 1991 ($N=173$). While the study examined various dimensions of advertising characteristics, the results that inform this study pertain to advertising sponsors. Results showed that manufacturers produced the majority of environmental advertisements. Advertisements sponsored by for-profit organizations were more likely to discuss environmental issues using general terms, whereas not-for-profit organizations were likely to be more specific regarding environmental issues (Banerjee, Gula, & Iyer, 1995).

Recently, Ahern, Bortree, and Smith (2010) conducted a content analysis of environmental advertising ($N=577$) spanning 30 years of *National Geographic* coverage from January 1979 until December 2008. The study looked for three basic frames: gain vs. loss, current generation vs. future generation, and taking less vs. doing more. The study examined types of sponsors (Ahern, Bortree, & Smith, 2010). Results indicated that ad sponsors were predominantly for-profit. Based on these results and the focus of this study, the following research questions were asked:

RQ 3a: What are the dominant sponsor types of environmental advertisements in major newsmagazines?

RQ 3b: Did environmental advertisement sponsorship shift from 1990 until 2010?

Environmental Issues.

Some recent scholarship examined environmental content in magazines. For example, Peterson (2005) conducted a longitudinal content analysis of the portrayal of adolescent environmental behavior in children's magazines in the years 1987, 1997, and 2002. Nutter-Smith and Bortree (2010) conducted a content analysis of 127 articles in 19 teen girl magazines to examine the nature of environmental information that was presented in articles. In addition to

previously mentioned categories Ahern, Bortree, and Smith (2010) explored in their content analysis, the researchers identified the prevalence of environmental issues portrayed in the advertisements from 1979 until 2008. Species/habitat protection was the dominant issue, followed by energy efficiency, the general state of the environment, solid waste problems, pollution, energy independence, and greenhouse gas reduction (Ahern, Bortree, & Smith 2010). This list of issues was adopted by this thesis to analyze the presence of environmental issues in advertising found in newsmagazines. As such, the following research question was asked:

RQ 4: What environmental issues are dominant in the advertisements appearing in the three leading newsmagazines during 1990, 2000, and 2010?

As indicated by the previous literature, there is renewed interest among scholars in exploring the dimensions of environmental advertising content. Although scholarship is devoting more attention to environmental advertising content, another line of research examined the ways in which the environment is framed through news coverage. A host of these studies are discussed in the following section.

News Framing and the Environment

Scholars examined the development of environmental journalism (e.g., Neuzil, 2008) and the role of environmental journalism (“mass media”) in society. Some research examined how environmental issues are covered and the political implications of news coverage (e.g., Hansen, 1993; Lester, 2010). This section covers a host of studies that operationalized frames that inform the current study. Previous research accounts for many ways in which environmental issues were covered by the news. However, the following literature informs the goals of this thesis. Though news framing studies inform this study, news coverage and advertising content are distinguishable. An advertisement is a paid and controlled message disseminated by a sponsor. A news story is uncontrolled by a message sponsor since news gatekeepers choose story elements to include and exclude when reporting a message (i.e., gatekeepers “frame” the message that is disseminated). In a news framing study, Kenix (2005) examined four groups of newspapers, two in New York and two in Los Angeles, to analyze articles ($N=1,180$) about environmental pollution over three decades. Kenix (2005) observed that “the reliance on advertiser support and the values and norms of journalism itself” (p. 67) influence news coverage in the newspaper industry. The researcher argued that advertising content influenced corresponding media content

and media content catered to upper-socioeconomic groups (Kenix, 2005). This thesis did not analyze or account for news content in U.S. newsmagazines. However, examination of advertising content in comparison to news content findings is justifiable since advertising content potentially influences news coverage (Kenix, 2005).

Researchers argue that environmental news coverage tends to focus on environmental issues and conflict (Archibald, 1999; Jensen & Hurley, 2005). Accordingly, some research focused on news coverage of environmental issues and conflict. For example, Liebler and Bendix (1996) analyzed four years (1989-1993) of ABC, CBS, and NBC news coverage surrounding an old-growth forest/spotted owl disagreement in the Pacific Northwest. Later, the researchers content analyzed national newspaper coverage ($N=10$) of the conflict by analyzing articles ($N=408$) published from 1990 until 1994 (Bendix & Liebler, 1999).

Jacobson, Langin, Carlton, and Kaid (2011) investigated potential influences on public support for the conservation of endangered large carnivores and found that newspaper coverage of the Florida panther had a neutral-to-positive frame valence. The content analysis examined newspaper articles ($N=513$) from 2003 to 2006 about the Florida panther and compared statewide and local news coverage. “Local” news coverage referred to reporting from local newspapers in southwestern Florida, near a panther habitat. Results indicated that local newspapers devoted more coverage to panthers. While news coverage typically discussed associated risks, sources in news coverage were found to use a neutral-to-positive tone when speaking about panthers.

Researchers examined environmental news content in other countries. Dirikx and Gelders (2009) analyzed Dutch and French newspaper articles ($N=257$) from four newspapers (two from each country). These newspapers were published from 2001 until 2007 and focused on climate change. Researchers examined the prevalence of generic frames (Semetko & Valkenburg, 2000) in the newspaper articles. Results indicated that news articles covering climate change focused on frames of consequences and responsibility. The consequences frame was the most prevalent frame. Articles presenting the consequences frame frequently discussed “the consequences of the (non-) pursuit of a certain course of action and of possible losses and gains” (Dirikx & Gelders, 2009, p. 739). The second prevalent frame was the responsibility frame, in which articles discussed “the need for urgent actions, referenced possible solutions and suggested that governments are responsible for and/or capable of alleviating climate change problems” (Dirikx

& Gelders, 2009, p. 739). The conflict frame and the human interest frame were the least prevalent frames according to the study. Data regarding the morality frame were not reported because of inconsistency (Dirikx & Gelders, 2009).

Gordon, Deines, and Havice (2010) analyzed newspaper coverage of climate change in a Mexico-city based newspaper called *Reforma*. Researchers examined news articles ($N=144$) published from 2004 to 2006 to see how climate change was covered. Results indicated that newspaper coverage tended to rely on frames of consequences. Findings indicated an occasional presence of the conflict frame, but the conflict frame was not as prevalent as the consequences frame. Since these previous studies informed scholarly understanding of news frames, findings from these studies were compared with the results of this thesis to understand how advertising frames compared with news frames. This comparison is located in the discussion section of this thesis since results hold implications for future research.

This thesis aims to identify generalizable trends in environmental advertising content. This study's findings facilitate understanding of the frame-types present in environmental advertising by analyzing advertising content over time. Results of this thesis can be used in future experimental settings to test the effects of manifest content on various audiences. Furthermore, results of this study were compared with prior environmental advertising research to identify potential trends in advertising content. Results were compared with prior research analyzing environmental news coverage frames to see whether environmental advertising content was consistent with results from news framing studies. The results of this thesis have implications for media effects research, public opinion and policy research, and strategic communication practice, which are discussed in this study's discussion. Based on previous literature that guided the thesis methodology, following is a summary of the research questions:

RQ 1a: What frame classifications are dominant in the environmental advertisements during 1990, 2000, and 2010?

RQ 1b: What, if any, shifts in environmental advertisement framing occurred from 1990 until 2010?

RQ 2: Is the primary frame valence of U.S. newsmagazine environmental advertising positive, negative, or neutral?

RQ 3a: What are the dominant sponsor types of environmental advertisements in major newsmagazines?

RQ 3b: Did environmental advertisement sponsorship shift from 1990 until 2010?

RQ 4: What environmental issues are dominant in the advertisements appearing in the three leading newsmagazines during 1990, 2000, and 2010?

Chapter Four

Method

Sample

This thesis relied on a population of environmental advertisements ($N = 449$) found in the three most influential U.S. newsmagazines: *Time*, *Newsweek*, and *U.S. News and World Report*. These magazines were chosen because they historically had the largest circulation numbers of all U.S. newsmagazines (Reed, 1998) and because of their traditional opinion-leader readership (Weiss, 1974). The unit of analysis for this thesis was an environmental advertisement that covered at least one full page in one of the newsmagazines. Environmental advertisements published in issues of *Time*, *Newsweek*, and *U.S. News and World Report* in the years 1990, 2000, and 2010 completed the sample. The analysis examined entire years rather than constructed years because a constructed sample might have missed opportunities. For example, this sample was able to account for seasonal trends and trends to influence political timelines (e.g., election years, economic cycles). The sample included time periods spaced by ten years to allow for major shifts in public attitudes and opinions regarding the environment.

Advertisements were scanned from print copies and microfilm versions¹ of the three newsmagazines. Inclusion of advertisements from print copies and microfilm versions of the publications served as a method to check for a complete sample and to account for some geographic variability in advertising content.² For this study, an environmental advertisement was defined as any paid message with a primary message that was environmental. The advertisements explicitly promoted an environmental product/service, green lifestyle or idea,

¹ All time periods in the sample were available via print, but not all time periods in the sample were available via microfilm. Time periods that were not available via microfilm were *Newsweek*, *Time*, and *U.S. News and World Report* in 2010, and *U.S. News and World Report* in 2000.

² Print copies of the publications were accessed at Virginia Tech's Newman Library in Blacksburg, Virginia. The print copies contained some advertising content targeted toward readers in southwestern Virginia. Microfilm versions of the publications were also accessed at Virginia Tech's Newman Library. University Microfilms International in Ann Arbor, Michigan published microfilm versions. These versions contained some advertising content targeted toward readers in Ann Arbor, Michigan.

and/or corporate image of environmental responsibility. Advertisements that showed nature as a backdrop (Corbett, 2002) (e.g., advertisements displaying vacation destinations) and advertisements that discussed a biospheric element solely as an industrial product (i.e., a company advertising the production of an energy source without also displaying an explicit environmental message) were not classified as environmental in this study. Such advertisements were excluded from the study's sample. Advertisements that included outdoor activities (e.g., hiking, bicycling) without making explicit environmental claims were also excluded from the sample. A few advertisements promoted environmental television series or discussion forums. These advertisements were excluded from the sample because there was no explicit environmental appeal other than to promote the specific television show or discussion forum. Advertisements that discussed "energy efficiency" solely as an economic issue or "energy independence" solely as a foreign policy issue did not incorporate explicit environmental appeals, and thus, were omitted from the sample. Table 2 shows the number of advertisements by magazine and year for the ads under analysis.

In 1990, there were 32 advertisements in *Newsweek*, 45 advertisements in *Time*, and 41 advertisements in *U.S. News and World Report*. In 2000, there were 62 advertisements in *Newsweek*, 86 advertisements in *Time*, and 50 advertisements in *U.S. News and World Report*. In 2010, there were 45 advertisements in *Newsweek*, 70 advertisements in *Time*, and 18 advertisements in *U.S. News and World Report*. While Table 2 shows the breakdown in the number of advertisements per newsmagazine, a few special editions may have influenced the number of environmental advertisements in a given time period. A special advertising section on Earth Day in the April 16, 1990 issue of *Newsweek* accounted for 10 of the 32 environmental advertisements collected in the entire 1990 *Newsweek* sample. *Time* published a *Special Edition: Earth Day 2000*, which accounted for 16 of the 86 environmental advertisements collected in the entire 2000 *Time* sample. *Newsweek's* 2010 Green Rankings were published in the October 25, 2010, issue. There were 8 environmental advertisements in the October 25, 2010, issue, 5 of which were placed in the 2010 Green Rankings section of the publication. There were 45 environmental advertisements in the *Newsweek* 2010 sample.

Coder Training

Two coders were recruited to code advertisements in this study. Coders were initially trained by coding 20 environmental advertisements from among those identified for analysis.

Training occurred under the supervision of the primary researcher before coding began. The primary researcher guided coders through the codebook categories to answer questions and clarify misunderstandings. Afterward, coders assessed the 20 advertisements. Inter-coder reliability was assessed using Holsti's percentage of agreement, a statistic frequently used in communication research to calculate reliability. Retraining on the categories was required upon discovering inconsistency or disagreement between coders that fell below .85. Each coder was trained with the codebook three times.

As shown in Table 3, inter-coder reliability was .85 or higher for each category except "issue combination" (.75). Inter-coder reliability was .90 for the "sponsor type" category. Each issue category met agreement during training, except the "issue combination" category (.75). Issues that met agreement included "pollution" (.95), "greenhouse gas reduction" (1.00), "solid waste" (.90), "species/habitat protection" (.90), "energy efficiency" (1.00), "energy independence" (.95), "general environment" (.95), and the "dominant issue" category (.85). Generic frame categories achieved reliability, including the "responsibility" frame (1.00), "human interest" frame (.90), "consequences" frame (.90), "morality" frame (.95), "conflict" frame (.90), and the "dominant generic" frame (.90). Macro-frame categories achieved reliability, including "cynicism" (.95), "speculation" (1.00), and "metacommunication" (.90). The "dominant generic vs. macro-frame" category achieved reliability with a percentage of .90 and the frame "valence" category achieved a reliable percentage of 1.00. The final inter-coder reliability for coder training ranged between 1.00 and .75 with a mean of .93. Upon achieving agreement of .93, coders proceeded to the entire sample of advertisements.

Coding Procedures

The two coders analyzed 592 advertisements. Advertisements that questionably met the environmental advertisement definition were also included in this total. After coders agreed that many ads failed to meet the definition in this study, 449 advertisements were used in the analysis. Each coder used the codebook provided to her (see Appendix) and recorded her responses in a Microsoft Excel spreadsheet provided by the primary researcher. Coders checked all categorizations that applied to each advertisement to reveal the dominant framing categories present in each.

Categories

The categories in this analysis were primarily taken and adapted from previous framing literature. The codebook included some additional variables from previous environmental advertising research. Detailed operationalization of the variables is found in the codebook (see Appendix). However, the next section provides descriptions and examples of the ways variables were operationalized in this study.

Unit of Analysis.

Each unit of analysis was coded in a “000000” format. The first two digits represented the year of publication where “90” was 1990, “00” was 2000, and “10” was 2010. The third digit represented the name of the publication where “1” was *Newsweek*, “2” was *Time*, and “3” was *U.S. News and World Report*. The three remaining digits were numbers that corresponded to the advertisement’s placement in each publication.

Sponsor Type.

Coders indicated the sponsor of each advertisement by identifying the name of the sponsor and the type of sponsor as either “for profit,” “not-for-profit,” or “government.”

Issue-specific vs. Generic Frames.

The issues category of the codebook prescribed a list of seven possible ad issues derived from Ahern, Bortree, & Smith (2010). The category provided an eighth place to account for issue combinations that were not mutually exclusive by the prescribed categories. These prescribed categories included “pollution,” “greenhouse gas reduction,” “solid waste problems,” “species/habitat protection,” “energy efficiency,” “energy independence,” and the “general state of the environment.” Coders determined the most dominant salient issue upon analyzing each advertisement and checking for the presence or absence of each issue.

Operationalization of generic and macro frames was derived from categories prescribed by Semetko and Valkenburg (2000) and Constantinescu and Tedesco (2007). Generic frames included: “responsibility,” “human interest,” “consequences,” “morality,” and “conflict.” Coders determined the presence or absence of each of these generic frame categories. Following are more detailed descriptions of each of the generic frame categories.

The *responsibility* frame suggested that someone or something was responsible for an environmental issue or problem. In this frame, ad sponsors could either accept the blame or place the blame on some other entity. For example, if an organization’s advertisement accepted the blame for some environmental catastrophe as a result of the organization’s negligence, the

responsibility frame was present. If the sponsor of an advertisement suggested that another entity or phenomenon was causing harm to the environment, the responsibility frame was also present.

The *human interest* frame was present in an advertisement that attempted to identify with someone by invoking feelings or emotions, such as outrage, sympathy, or compassion. The frame might provide an example of “human face,” employ adjectives or personal vignettes, or emphasize how an environmental issue or problem affected individuals or groups. For example, an advertisement might use visual imagery of an animal that is slowly becoming extinct to invoke feelings of sympathy and compassion. Another advertisement might include a personal narrative from someone affected by an environmental issue. In both examples, the human interest frame was present.

The *consequences* frame primarily focused on losses, costs, or other consequences (i.e., economic, social, political, military, etc.) in the advertisement. This operationalization expanded Semetko and Valkenburg’s (2000) operationalization as solely “economic” consequences. The consequences frame was present in an advertisement claiming the conversion to a renewable energy economy would be too costly for society. The frame was present in an advertisement claiming that if society did not start to mitigate effects of climate change, repercussions would be irreversible. Though both advertisements argued different positions, both advertisements referred to the consequences of ignoring the stated position.

The *morality* frame included messages of moral character, God, or other religious tenets. For example, the morality frame was present in an advertisement advocating pro-environmental behavior as a solution to a current social problem. Another example would be an advertisement aligning pro-environmental behavior with piety. In both advertisements, the morality frame was present.

Finally, the *conflict* frame was present in advertisements that referred to any disagreement between two entities over an environmental issue. The frame was present if an advertisement referred to two or more sides of an issue/problem or if an ad labeled “winners” or “losers” in an environmental controversy. For example, if an advertisement discussed a regulatory dispute between a corporation and an environmental advocacy group over an environmental issue, the conflict frame was present in the advertisement.

Coders identified the presence or absence of these generic frames. Afterward, coders considered the degree of salience of each generic frame. Coders considered the generic frame

with the highest degree of salience present in each advertisement. The dominant generic frame was determined by selecting the generic frame that was most manifest in each advertisement.

Macro-frames.

Macro-frames were coded for their presence or absence in the advertisements. Macro-frames are “universal, thematic organizing structures that are capable of serving as foundations to generic frames” (Constantinescu & Tedesco, 2007, p. 444). Therefore, macro-frames have the ability to transcend and further shape generic and issue-specific frames present in media content (Constantinescu & Tedesco, 2007). Researchers identified macro-frames including “cynicism,” “speculation,” and “metacommunication.”

The *cynicism* frame reflects a distrustful attitude or feelings of helplessness or powerlessness. For example, the cynicism frame was present in an advertisement focusing on an organization or environmental issues, where ordinary people could not influence those in power or they could not mitigate the effects of an environmental problem.

The *speculation* frame was present in an advertisement that mentioned any assumptions, predictions, or implications without providing any proof or evidence. For example, the speculation frame was present in an advertisement where an environmental issue was under consideration or was uncertain. The frame may include contemplation of risks or benefits, but the issue’s outcome was uncertain. The frame might predict or forecast an outcome (favorable or unfavorable). However, the speculation frame did not provide proof or evidence to support its assumptions, predictions, or implications.

The *metacommunication* frame was present in an advertisement that included the sponsor’s own opinions. The frame could mention, discuss, or critique another entity’s responses to someone or something. The frame could mention an entity commenting on its own or others communicative efforts. For example, if an advertisement quoted an organization’s message, or if the advertisement discussed how an entity (e.g., a news organization) portrayed the environment, the metacommunication frame was present. After coders identified the presence or absence of the macro-frames in each advertisement, coders considered the dominant frame between generic and macro-frames. Coders identified the dominant frame by selecting the most prominent frame (between generic and macro-frames) in each advertisement.

Coders accounted for the tone of each advertisement, or its frame valence (de Vreese & Boomgaarden, 2003). Frame valence was determined by coding each advertisement as positive,

neutral, or negative. An advertisement with a *positive* frame valence typically seems optimistic. The advertisement might list advantages of an environmental product, service, or idea. Additionally, an advertisement with a positive frame valence might give a positive assessment or outlook regarding environmental affairs now or in the future. Although some advertisements might seem pessimistic on the surface, if the advertisement ended with an optimistic statement, tone, or outlook, it was considered to have a positive frame valence. For example, an advertisement might paint a dire situation for the majority of an advertisement space. If the advertisement offered a solution or solved an environmental problem by the ad's end, it was considered an advertisement with a positive frame valence in this study.

Advertisements with a *negative* frame valence typically seem pessimistic. The advertisement might discuss disadvantages of a product, service, or idea. Additionally, an advertisement with a negative frame valence might give a negative assessment or cynical outlook regarding environmental affairs now or in the future. If the advertisement ended with a pessimistic tone, it had a negative frame valence.

Advertisements with a *neutral* frame valence elicit no discernable tone. An advertisement with a neutral valence gave no assessment regarding the environment and seemed neither optimistic nor pessimistic.

Analyses were run on frame valence, sponsor, generic, issue-specific, macro-frame data. However, a two-part analysis was conducted on the generic and issue-specific data for this thesis. As previously mentioned, frames are commonly classified as issue-specific or generic (de Vreese, 2003; de Vreese, Peter, & Semetko, 2001). To operationalize issue-specific or generic framing of the environment, a two-step process was used. First, coders were asked to identify the presence or absence of issues, generic frames, and macro-frames in each environmental advertisement. This operationalization allowed a deeper exploration into the ways advertisements were framed, since there have not been many longitudinal efforts to analyze environmental advertising content. Advertisements coded as "general environment" as the dominant issue represented "generic" ads in the analysis. If "general environment" were coded as equally present as another issue (i.e., "combination") in an advertisement, the advertisement was not considered generic. An analysis was run on generic advertisements ($n=144$) to determine the prevalence of generic frames by time period. Afterward, an analysis was run on issue-specific

advertisements ($n=305$). This analysis included the presence of generic frames in issue-specific advertisements by time period, as well as a ranking of issues by time period.

Reliability

In addition to the initial reliability check during coder training, inter-coder reliability was assessed again at the end of the study to ensure adherence to the codebook over the span of coding. Inter-coder reliability was determined using Holsti's percentage of agreement. The statistic was used on a randomized 11% sub-set of ads ($n = 49$) to ensure the coders agreed on the definitions prescribed by the codebook. As reported in Table 4, inter-coder reliability was .94 for the "sponsor type" category. Issue categories that achieved agreement included "greenhouse gas reduction" (.94), "solid waste" (.88), "species/habitat protection" (.92), "energy efficiency" (.92), "energy independence" (1.00), and "general environment" (.86). Issues categories that did not meet agreement of .85 included the "pollution" category (.84), the issue "combination" category (.80), and the "dominant issue" category (.78). Generic frame categories achieved reliability, except the "dominant generic" category (.80). Generic frame categories that achieved reliability included the "responsibility" frame (.92), "human interest" frame (.88), "consequences" frame (.92), "morality" frame (.92), and "conflict" frame (.96). Macro-frame categories achieved reliability, including "cynicism" (.96), "speculation" (.96), and "metacommunication" (.96). The "dominant generic vs. macro-frame" category showed a reliability of .80, and the frame "valence" category showed a reliability of .82. Both categories fell below .85. Inter-coder reliability for each category ranged from 1.00 to .78, and coders achieved a mean reliability of .89.

Chapter Five

Results

Since content analysis creates categorical data, results were assessed through cross-tabulations. Results were analyzed to test the categorical data against the research questions through the use of SPSS.

Research Question 1a

Research question 1a asked what frame classifications were dominant in the environmental advertisements during 1990, 2000, and 2010. To answer this question, results of the generic frame classifications were tabulated. Table 5 displays the ranking of generic frames by time period. Content analysis findings revealed the “responsibility” frame was overwhelmingly dominant during all three years explored. In 1990, the first year analyzed in this study, the “responsibility” frame was dominant ($n=14$, 66.7%), followed by “human interest” ($n=5$, 23.8%), and “morality” ($n=1$, 4.8%). “Consequences” and “conflict” were not dominant in any ads during this time period. In 2000, the “responsibility” frame was dominant ($n=64$, 86.5%), followed by “morality” ($n=6$, 8.1%), and “human interest” ($n=4$, 5.4%). Again, “consequences” and “conflict” were not prevalent in the ads during this year. In 2010, the “responsibility” frame was dominant ($n=43$, 87.8%), followed by “human interest” ($n=4$, 8.2%), and “consequences” ($n=2$, 4.1%). During this year, “morality” and “conflict” were not dominant in advertisements. Interestingly, the conflict frame was not a dominant frame in any year, which explains its absence from Table 5.

Content analysis findings reveal that macro-frames were rarely present and even less present as a dominant frame. In fact, analysis of dominant frames (generic and macro-frames; $n=144$) showed that 1990 was the only time period in which a macro-frame resulted as dominant. In 1990, the “speculation” frame was dominant in one ad ($n=1$, 4.8%). Frames of “cynicism” and “metacommunication” were not dominant in any ad over time, and therefore no statistics were reported for either macro-frame classification.

Research Question 1b

Research question 1b asked what shifts in environmental advertisement framing occurred from 1990 until 2010. Cross-tabulations were run on generic frames (responsibility, human interest, consequences, morality, and conflict) and macro-frames (cynicism, speculation, and

metacommunication), comparing each by the three time periods (1990, 2000, and 2010). Results for the comparison of generic frames by time period are displayed in Table 6. The “responsibility” frame was dominant in each time period, but no significant difference resulted by time period, $\chi^2(2) = .953, p = .621$. The “responsibility” frame was present in 100.0% ($n=21$) of generic advertisements in 1990, in 98.6% ($n=73$) of generic advertisements in 2000, and in 100.0% ($n=49$) of generic advertisements in 2010. Analysis of framing across time revealed only two significant differences among generic frame types. The “human interest” frame, $\chi^2(2) = 7.592, p = .022$, and the “morality” frame, $\chi^2(2) = 8.702, p = .013$. The “human interest” frame was used less in 2010 ($n=9, 18.4\%$) than in 2000 ($n=31, 41.9\%$) and 1990 ($n=8, 38.1\%$). The “morality” frame was present in ads during 1990 ($n=3, 14.3\%$) and 2000 ($n=12, 16.2\%$). The “morality” frame was not present in advertisements during 2010. As Table 6 shows, no statistics are reported for the generic frame classification of “conflict,” since it was never reported.

Although a 3x3 cross-tabulation was run on the presence of macro-frames (cynicism, speculation, and metacommunication) in generic advertisements by time period (1990, 2000, and 2010), no statistics were reported for two of the three macro-frame classifications. The macro-frame classifications of “cynicism” and “metacommunication” were not reported in any generic environmental advertisements ($n=144$). Moreover, there was no significant difference reported for the frame classification of “speculation” by time period, $\chi^2(2) = .479, p = .787$. The “speculation” frame was present in 4.8% ($n=1$) of generic advertisements in 1990, in 4.1% ($n=3$) of generic advertisements in 2000, and in 2.0% of advertisements in 2010 ($n=1$).

A 3x5 cross-tabulation was run on the presence of generic frames (responsibility, human interest, consequences, morality, and conflict) in issue-specific advertisements ($n=305$) by time period (1990, 2000, and 2010). The results for this cross-tabulation are shown in Table 7. The “responsibility” frame was overwhelmingly present in issue-specific advertisements during each time period, but there was no significant difference by time period, $\chi^2(2) = 2.151, p = .341$. The “responsibility” frame was present in 99.0% ($n=96$) of issue-specific advertisements in 1990, in 100.0% ($n=124$) of issue-specific advertisements in 2000, and in 100.0% ($n=84$) of issue-specific advertisements in 2010. Analysis of the presence of issue-specific advertisements in generic frames across time revealed significant differences among the remaining generic frame types. The “human interest” frame, $\chi^2(2) = 6.546, p = .038$, the “consequences” frame, $\chi^2(2) = 26.078, p \leq .001$, the “morality” frame, $\chi^2(2) = 13.464, p = .001$, and the “conflict” frame, $\chi^2(2) =$

19.886, $p \leq .001$, all resulted in significant differences. These four frames were used more in issue-specific advertisements in 1990 and then use significantly dropped in 2000. As Table 7 shows, presence of the “human interest” frame dropped from 1990 ($n=36$, 37.1%) to 2000 ($n=29$, 23.4%). Additionally, presence of the “consequences” frame dropped from 1990 ($n=32$, 33.0%) to 2000 ($n=10$, 8.1%); presence of the “morality” frame dropped from 1990 ($n=10$, 10.3%) to 2000 ($n=3$, 2.4%); and presence of the “conflict” frame dropped from 1990 ($n=9$, 9.3%) to no presence in 2000. Results indicate that presence of these four generic frames in issue-specific advertisements remained relatively stable during 2010. Presence of the “human interest” frame ($n=19$, 22.6%) and “consequences” frame ($n=10$, 11.9%) remained low, while “morality” and “conflict” frames were not present in issue-specific ads during 2010.

A 3x8 cross-tabulation was run on the presence of issues (i.e., pollution, greenhouse gas reduction, solid waste problems, species/habitat protection, energy efficiency, energy independence, general environment, and combination) in issue-specific advertisements ($n=305$) by time period (1990, 2000, and 2010) was performed. Results from this cross-tabulation are reported in Table 8. The analysis findings reveal a significant difference across time in the presence of 5 environmental issues in issue-specific advertisements. As Table 8 shows, the “pollution” issue, $\chi^2(2) = 23.945$, $p \leq .001$, the “solid waste” issue, $\chi^2(2) = 18.992$, $p \leq .001$, the “species/habitat” issue, $\chi^2(2) = 23.144$, $p \leq .001$, the “energy efficiency” issue, $\chi^2(2) = 75.337$, $p \leq .001$, and the “energy independence” issue, $\chi^2(2) = 7.586$, $p = .023$.

The presence of “pollution,” “solid waste,” “energy independence,” and “species/habitat protection” issues decreased in issue-specific ads after 1990. The “pollution” issue was present in 35.1% ($n=34$) of ads in 1990 but dropped to 18.5% ($n=23$) in 2000 and 6.0% ($n=5$) in 2010. The “solid waste” issue was present in 25.8% ($n=25$) of ads 1990 but dropped to 6.5% ($n=8$) in 2000 and 9.5% ($n=8$) in 2010. The “energy independence” issue was present in 11.3% ($n=11$) of ads 1990 but dropped to 3.2% ($n=4$) in 2000 and 3.6% ($n=3$) in 2010. While presence of the “species/habitat protection” issue dropped from 29.9% ($n=29$) in 1990 to 21% ($n=26$) in 2000, its presence in issue-specific ads significantly dropped in 2010 ($n=2$, 2.4%).

The presence of “energy efficiency” issues increased over time. The “energy efficiency” issue was present in 12.4% ($n=12$) of issue-specific advertisements in 1990 and then increased to 56.5% ($n=70$) in 2000, and to 73.8% ($n=62$) in 2010. There was no significant difference in the presence of the “greenhouse gas reduction” issue in issue-specific ads across time, $\chi^2(2) = .589$,

$p = .745$. Thus, its presence in issue-specific ads remained relatively stable. “Greenhouse gas reduction” appeared in 27.8% ($n=27$) of issue-specific ads in 1990, 23.4% ($n=29$) in 2000, and 26.2% ($n=22$) in 2010.

While some issue-specific advertisements were coded as “general environment,” the issue showed no significant difference when compared by time period, $\chi^2 (2) = 5.294, p = .071$. The “general environment” issue was present in 11.3% ($n=11$) of issue-specific advertisements in 1990, 9.7% ($n=12$) of ads in 2000, and 20.2% ($n=17$) in 2010. Additionally, issue-advertisements that displayed a “combination” of issues showed no significant difference when compared by time period, $\chi^2 (2) = 2.046, p = .359$. As Table 8 shows, a “combination” of issues was present in 35.1% ($n=34$) of issue-specific advertisements in 1990, in 29.8% ($n=37$) of ads during 2000, and in 39.3% ($n=33$) in 2010.

Research Question 2

Research question 2 asked if the primary frame valence of U.S. newsmagazine environmental advertising was positive, negative, or neutral. A 3x3 cross-tabulation used the total population of advertisements ($N=449$) to compare year (1990, 2000, and 2010) by frame valence (positive, neutral, or negative). Environmental advertisements were found to have overwhelmingly positive frame valence. In 1990, 87.3% ($n=103$) of advertisements were positively framed, while 87.9% ($n=174$) of ads in 2000 and 73.7% ($n=98$) of ads in 2010 were positively framed.

Though environmental advertisements were overwhelmingly found to have a positive frame valence, content analysis findings reveal a significant difference in frame valence across time, $\chi^2 (4) = 20.312, p \leq .001$. Advertisements had a negative tone in 1990 ($n=13, 11.0\%$) and 2000 ($n=24, 12.1\%$) but the percentage of ads with a negative tone increased in 2010 ($n=35, 26.3\%$). The neutral frame valence followed the positive frame valence as the second most likely frame valence to be found in environmental advertisements. Environmental advertisements were least likely to be negatively framed over time. In 1990, 1.7% ($n=2$) of advertisements were negatively framed. No environmental advertisements were negatively framed in 2000 and 2010.

Research Question 3a

Research question 3a asked what were the dominant sponsor types of environmental advertisements in major newsmagazines. A 3x3 cross-tabulation compared the population of advertisements ($N=449$) by year (1990, 2000, and 2010) and sponsor type (i.e., “for profit,” “not-

for-profit,” or “government”). Findings reveal that environmental advertisements were overwhelmingly sponsored by “for profit” entities. “For profit” sponsors funded 85.6% ($n=101$) of environmental advertisements in 1990, as well as 79.8% ($n=158$) of advertisements in 2000 and 93.2% ($n=124$) in 2010. “Not-for-profit” entities sponsored 10.2% ($n=12$) of advertisements in 1990, 19.2% ($n=38$) of advertisements in 2000, and 5.3% ($n=7$) of advertisements in 2010. “Government” entities sponsored environmental advertisements the least over time. “Government” entities sponsored 4.2% ($n=5$) of advertisements in 1990, 1.0% ($n=2$) in 2000, and 1.5% ($n=2$) of ads in 2010.

Research Question 3b

Research question 3b asked if environmental advertisement sponsorship shifted from 1990 until 2010. Content analysis findings reveal a significant difference in sponsor type over time, $\chi^2(4) = 18.726, p = .001$. “For profit” entities sponsored 85.6% ($n=101$) of environmental ads in 1990. However, “for profit” sponsorship increased from 2000 ($n=158, 79.8\%$) to 2010 ($n=124, 93.2\%$). Although “not-for-profit” entities sponsored 10.2% ($n=12$) of environmental ads in 1990 and 19.2% ($n=38$) of ads in 2000, there was a significant decrease in the number of “not-for-profit” sponsors in 2010 ($n=7, 5.3\%$). The primary sponsor of environmental advertisements in 1990 ($n=118$) was Texaco ($n=13, 11.0\%$). However, Texaco was closely followed by AIG ($n=12, 10.2\%$) and ICI ($n=10, 8.5\%$). Toyota ($n=54, 27.3\%$) was the primary sponsor of environmental advertisements in 2000 ($n=198$). The second closest sponsor in 2000 was Honda ($n=26, 13.1\%$). The primary sponsor of environmental advertisements ($n=133$) in 2010 was Shell ($n=21, 15.8\%$), followed by ClimateMaster ($n=12, 9.0\%$), Schneider Electric ($n=8, 6.0\%$), and York ($n=8, 6.0\%$).

Research Question 4

Research question 4 asked what environmental issues were dominant in the advertisements. As Table 9 shows, issue ranking varied by time period. In 1990, the top issue was “species/habitat protection” ($n=25, 25.8\%$), followed by “solid waste” ($n=21, 21.6\%$), “pollution” ($n=14, 14.4\%$), “greenhouse gas reduction” ($n=9, 9.3\%$), “energy efficiency” ($n=8, 8.2\%$), and “energy independence” ($n=2, 2.1\%$). An additional 18.6% ($N=18$) of environmental advertisements in 1990 combined issues. In 2000, the top issue was “energy efficiency” ($n=51, 41.1\%$), followed by “species/habitat protection” ($n=17, 13.7\%$), “greenhouse gas reduction” ($n=13, 10.5\%$), “pollution” ($n=11, 8.9\%$), “energy independence” ($N=3, 2.4\%$), and “solid

waste” ($n=1$, 0.8%). An additional 22.6% ($n=28$) of environmental advertisements in 2000 combined issues. In 2010, the top issue was “energy efficiency” ($n=39$, 46.4%), followed by “greenhouse gas reduction” ($n=6$, 7.1%), “solid waste” ($n=5$, 6.0%), “energy independence” ($n=3$, 3.6%), “pollution” ($n=3$, 3.6%), and “species/habitat protection” ($n=2$, 2.4%). An additional 31.0% ($n=26$) of environmental advertisements in 2010 combined issues.

Chapter Six

Discussion

Summary of Findings

Dominant Frames.

In light of recent calls for research (Ahern, 2011; Hansen, 2011), this thesis analyzed environmental advertising in 1990, 2000, and 2010 to identify trends in advertising content. Analysis of environmental advertisements in *Newsweek*, *Time*, and *U.S. News and World Report* revealed the responsibility frame to be overwhelmingly dominant in generic advertisements during each time period. In fact, the responsibility frame was present in every “general environment” (i.e., generic frame) advertisement in 1990 ($n=21$) and 2010 ($n=49$). Aside from the consistency of the responsibility frame, the presence of generic frames of human interest and morality significantly dropped from 2000 to 2010 (as shown in Table 6). While these findings suggest that advertising sponsors primarily frame their advertisements with responsibility arguments, reliance on appeals to human interest and morality decreased. Perhaps advertisers found that appeals to human interest and morality were no longer needed to achieve ad sponsor goals. In any case, presence of the consequences frame remained relatively steady in each time period, although it was not reported as dominant by any means. The conflict frame was not present in advertisements analyzed as generic frames ($n=144$).

These findings demonstrate variance between environmental news content and advertising content. Gordon, Deines, and Havice (2010) and Dirikx and Gelders (2009) found the consequences frame to be prevalent in environmental news coverage. However, findings in this thesis suggest the responsibility frame is much more dominant in environmental advertising. Gordon, Deines, and Havice (2010) examined a Mexico-city based newspaper and Dirikx and Gelders (2009) examined Dutch and French newspapers. Therefore, future research exploring generic frames (Semetko & Valkenburg, 2000) in environmental media should account for U.S. - based news content to inform comparisons between environmental news and advertising frames in the United States.

While the speculation frame was reported as dominant only in 1990, macro-frames (i.e., cynicism, speculation, and metacommunication) were not dominant in any time period. In concert with the absence of the conflict frame, these findings contradict news content research

findings. Although macro-frames appear to be dominant in news coverage (Constantinescu & Tedesco, 2007), that does not appear to be the case in environmental advertising. Additionally, the absence of the conflict frame suggests advertisements do not focus on controversy. That a majority of advertisements ($n=305$) were found to have a “dominant issue” suggests a majority of the advertisements focused on specific issues but not conflict surrounding those issues.

The responsibility frame was overwhelmingly present in advertisements analyzed as issue-specific ($n=305$). Moreover, its presence in issue-specific advertisements was stable over time (it was present in 99% of advertisements in 1990, 100% in 2000, and 100% in 2010). However, the presence of human interest, consequences, morality, and conflict in issue-specific advertisements significantly dropped from 1990 to 2000 (as indicated in Table 7). Furthermore, the conflict frame was not present in issue-specific advertisements after 1990, and morality was not present in 2010. These results indicate that issue-specific advertisements, with the exception of the responsibility frames, did not use appeals to human interest, consequences, morality or conflict after 1990. This finding may reflect a development of public sentiment toward the environment over time. Advertising sponsors assume public concern for the environment and incorporate only appeals to responsibility. Since the responsibility frame was so prevalent over time, the frame’s characteristics possibly varied over time. That is, the responsibility frame in environmental advertisements likely portrayed responsibility in a variety of ways. As shown in some advertising examples that follow, many of the environmental advertisements were image advertisements or corporate social responsibility ads. They frequently portrayed the ad sponsor as an “environmental steward” accepting responsibility for leading public environmental concern.

However, other advertisements focused on the reader’s responsibility to the environment. For example, one such advertisement was sponsored by Taylor Brown Smith & Perrault and was created for the *TIME* Environmental Challenge in 1990. Three-quarters of the ad features bold black text amid a yellow background. The text reads: “TAKE A DEEP BREATH. HOLD IT.” In the bottom quarter of the advertisement, the copy states in smaller bold letters: “NOW TRY TO READ THIS AD.” The ad continues in a smaller font size:

For the next 30 seconds, we challenge you to experience life in the year 2050. The air is stifling. As a result of global warming you’re hardly able to breathe. You think

about getting a glass of water, but lack the energy. And what's the use? There's a shortage of safe drinking water anyway.

That's where we're headed. But we don't have to be. Not if we teach one another to recycle, conserve, use non-toxic products. And share our knowledge with Third World countries.

You can help by donating to The Environmental Challenge Fund at Radio City Station, P.O. Box 1138, New York, NY 10101-1138. The donations will establish scholarships for environmental education.

You can exhale now. And breathe a little easier, knowing that it's not too late to change.

Advertising sponsors were found to “spotlight” or “reward” environmental responsibility in some advertisements. Sponsors told the story of some “environmental hero” in these advertisements. However, the “environmental hero” was often not affiliated with the advertising sponsor. For example, Amway sponsored “A Special Environmental Series” of advertisements devoted to “Local Heroes” in 1990. One ad in this series is titled “One man's quest for international cooperation—and orphan trees.” The advertisement is a two-page spread. Text surrounds a picture of Richard Hellman on the left page of the advertisement. The copy reads:

As a lawyer in the late '60s and early '70s working for the Department of the Interior, for the then-new Environmental Protection Agency and for Congress, Richard Hellman helped draft much of the seminal legislation of the environmental movement. Later he worked with the United Nations on international agreements to control pollution. For Hellman, recipient of the U.N. Global 500 Award for environmental excellence, protecting natural resources isn't just something he does. It's something he lives. Here's how he tells it.

Personally, I hardly ever drive a car. When I go out, I often ride a bike. I walk a lot, too. And I recycle as much as I can.

I like to find “orphan” trees. Ill go out in the countryside—to Virginia or Maryland—and find end-of-season nursery sales and bring trees back and plant them in my neighborhood. A friend of mine saw me and asked, “Hey, who are you, the John Muir of D.C.?” I do enjoy planting things.

Think globally, act locally. In that light, what every citizen does is important: Saving energy, recycling, planting trees. In our offices, we can encourage recycling, create car pools and van pools.

But we also need international cooperation. Our efforts could be negated if other countries proceed without environmental controls. The Mediterranean Sea program was the first, a model for regional environmental cooperation. Back in 1976, it was a dying body of water. But all these countries agreed to control pollution. Here we were, representatives of Israel and Arab countries, of Greece, Cyprus and Turkey, of former colonies and former colonial powers, all sitting down to work cooperatively on the environment. Our efforts gave the sea a new lease on life; an opportunity to cleanse itself.

But we need to make sure that opportunities continue to exist and that we live up to our promises. Because as Pogo said, we have met the enemy and he is us.

When I first got involved in working for the environment in 1968, after I came back from Vietnam, I would think back to when I was a boy, in Lewiston, New York. We lived in the country. We'd play in the old streams and swamps by the Tuscarora Indian Reservation. In those days, you could even drink the water from the creeks, it was so clean. But then I saw the power authority take a good part of that land. Then, pollution came. That impressed itself on my consciousness. I knew we had to do more to protect the environment.

Children need experiences of the countryside. A friend of mine who lives in a large city took his children to Texas. He saw a big black snake, and caught it, and showed them that there was nothing to fear; that, in fact, the snake was benign and useful to farmers. These are experiences that last a lifetime.

The ad continues, "*Amway is a 1989 recipient of the United Nations Environment Programme Award for Achievement.*" The right page of the advertisement features three pictures of business people—a realtor at an open house, a man typing at a computer, and a man holding a book. Parallel text reads: "Some people are as reliable as sunrise. You can see it in their smiles, feel it in their handshakes. You can tell their lives are fulfilling, their work is rewarding. These are Amway people. Hardworking Americans you can count on to give their best. Every day." Amway's logo, "We're Your Neighbors" slogan, and phone number are located at the bottom of the page.

Dominant Issues.

In terms of issue-specific advertisements, findings revealed a significant decrease in the presence of pollution, solid waste, and energy independence from 1990 to 2000 and a decrease in the presence of pollution and species/habitat protection from 2000 to 2010. However, the presence of energy efficiency significantly increased from 1990 to 2000, and again from 2000 to 2010 (as indicated in Table 8). Energy efficiency was the dominant issue in environmental advertising during 2000 and 2010. These findings suggest an overwhelming shift in the discussion of issues to a discussion of energy efficiency in environmental advertising. However, operationalization of energy efficiency in this study omitted advertisements from the sample that discussed energy efficiency solely as an economic issue (e.g., saving money). Energy efficiency advertisements had an explicit environmental appeal or claim manifest in the ad content to be included in the population of ads in this thesis. However, energy efficiency advertisements that incorporated environmental and economic appeals were included in the population of ads. Therefore, the shift in prevalence of energy efficiency ads over time might also indicate a shift in

the way energy efficiency advertisements were framed (i.e., from an economic argument to incorporating environmental arguments). Future research might examine the rhetorical nature of “efficiency” arguments in advertising over time. Following are examples of “energy efficiency” advertisements sponsored in 2000 and 2010. In 2000, Texaco sponsored an “energy efficiency” advertisement, which pictures a ground-level view staring at a car’s chrome exhaust pipe. Surprisingly, the exhaust pipe is shown dripping water into a fish bowl in which goldfish are swimming around. Below the picture, white text reads, “A cleaner source of energy is coming down the pipe.” The ad continues with slightly smaller text:

It’s called the fuel cell. A new, more efficient way to power cars or just about anything else. And so clean that the only thing coming out the tailpipe is pure water. Texaco is helping to make it happen. And the benefits are... well... clear.

The advertisement ends by showing Texaco’s logo and “A World Of Energy” slogan.

Bridgestone sponsored an “energy efficiency” advertisement in 2010. The ad pictures four tires standing alone on a road surrounded by trees, grass and a blue sky in the background. Although the tires are alone on the road, they are standing and positioned as if they are holding a vehicle on the road. White text outlined in a green box in the top left-hand corner reads: “ECOPIA—Can make any car more fuel-efficient.” The text continues:

You can help make your car more fuel-efficient and environmentally responsible by simply fitting it with ECOPIA tires. With Bridgestone’s low rolling resistance technology, ECOPIA can improve your car’s fuel economy without compromising its performance. Bridgestone ECOPIA tires. Using less fuel is better for the environment.

Below the picture and at the bottom of the advertisement, text reads: “Our passion for the very best in technology, quality and service is at the heart of our commitment to you wherever you are in the world. Bridgestone want to inspire and move you.” The ad ends with Bridgestone’s “PASSION for EXCELLENCE” logo on the bottom, right-hand side of the ad.

Greenhouse gas reduction remained relatively present in about one-fourth of the ads in each time period although no significance was reported. The presence of the greenhouse gas reduction issue is not surprising since climate change has remained the dominant issue in the environmental movement (Ahern, 2011; Hansen, 2011). Additionally, about one-third of the

advertisements discussed a combination of issues (as indicated in Table 8). Therefore, the dominant issues prevalent in environmental advertising varied over time. The dominant issue in 1990 was species/habitat protection. An example of a species/habitat protection advertisement in 1990 was sponsored by Chevron. The advertisement features a realistic drawing of a mother owl hovering over her owlets in a nest. The ad's text reads in bold letters: "The owls who couldn't be moved." The ad continues:

Owls sometimes build nests in strange places.

In a Southern California oil field, a nest with baby barn owls was discovered deep inside a stalled pumping unit.

A decision was made not to restart the pump until these fledglings grew up and left the nest.

It was made by the worker who discovered the owls and was wholeheartedly supported when he called the office to report.

So that spring, while other pumps in the field created a landscape of motion, one solitary pump stood quietly waiting for nature to take wing.

Do people make nature a natural part of their business?

The advertisement answers with bold text: "People Do." The advertisement ends with Chevron's logo under the text.

The dominant issue findings in this thesis complement Ahern, Bortree, and Smith's (2010) content analysis findings. Species/habitat protection, energy efficiency, and general state of the environment were the top three dominant issues characterized in *National Geographic* environmental advertising from 1979 to 2008 (Ahern, Bortree, & Smith, 2010). This study's findings revealed species/habitat protection as the dominant issue in 1990 and energy efficiency as dominant in 2000 and 2010.

Frame Valence.

Overall, environmental advertisements were framed positively. However, there was an increase in neutral frame valence from 2000 to 2010. These findings agree with Jacobson et al.'s (2011) findings that news coverage surrounding the Florida panther maintained a neutral to a positive tone. However, the current study's results saw a major increase in environmental advertisements with a neutral frame from 2000 to 2010. BP sponsored an advertisement with a neutral frame in 2010. In bold letters near the top of the advertisement, BP proposes: "What if saving a lot of energy didn't take a lot of your energy?" The ad continues:

BP strongly encourages energy efficiency and conservation. So we've created the BP Energy Lab, a new tool to help you become aware of your everyday energy consumption. With it, you can easily calculate your household energy usage and carbon emissions, and get tips on reducing both. In only a few seconds, you'll find out where your energy is going, so you can take control of how much you consume.

Below the text, the advertisement lists image icons of various energy resources above its green and yellow logo. As the text indicates, there is no discussion of advantages or disadvantages and there is no explicit tone in BP's statements. Therefore, this advertisement was coded as a neutral frame valence.

Advertising Sponsorship.

Environmental advertisements were primarily sponsored by for-profit organizations over time as Ahern, Bortree, and Smith (2010) suggested. Results indicated a significant increase in for-profit sponsorship from 2000 to 2010 in addition to a significant decrease in non-profit sponsorship from 2000 to 2010. Moreover, a decrease in the number of environmental advertisements found in these publications during 2010 is important to note. These correlations may have been influenced by limited advertising space (and limited resources) resulting from the economic recession and the changing media landscape. These correlations indicate a shift in publishing norms more than a shift in environmental advertising coverage or attention. Space in newsmagazines was limited in 2010 compared to previous years. For example, *U.S. News and World Report* published only 11 print issues in 2010 (which were the last print issues produced). After 2010, *U.S. News and World Report* began to publish content online. Nonetheless, environmental advertisements remained present in the publications over time.

Energy corporations and interest groups primarily sponsored environmental advertisements in 1990. Texaco was the primary sponsor of environmental advertisements in 1990. Following is an example of an environmental advertisement sponsored by Texaco in 1990. The top half of the advertisement reads in giant, bold letters: "KEEP IT CLEAN." In the lower half, Madeleine Marchese, General Manager, Marketing is pictured. Beside the picture, the add continues:

"For five years, Texaco's gasification technology lighted 100,000 homes with clean energy from coal. We keep it clean with a gasification process that we invented and perfected. It's a very workable solution to a difficult environmental problem."

Madeleine Marchese is General Manager, Marketing for Texaco Syngas, Inc.

“Our coal gasification process has produced over 2.5 billion kilowatt hours of electricity for California residents. That’s a record no other coal gasification process has even come close to.

“The Texaco process has not only been proven economically, it exceeds the clean air standards proposed by the Bush Administration. That proposal is for the year 2000. Texaco is ready now.

“As a technology, coal gasification is a powerful tool in the fight against acid rain. As an alternate energy source, it makes us more energy self-sufficient. We have a 300 year supply of coal at current consumption rates.

“Texaco people have even devised ingenious methods to expand the technology for the gasification of municipal sludge. Our process is designed not only to get rid of sludge but to transform it into usable energy.”

Clearly, there is enormous potential for America and its environment. And for the future.

The bottom of the ad displays the Texaco logo and a slogan: “TEXACO-WE’VE GOT THE ENERGY.”

In 2000, the automobile industry dominated environmental advertising sponsorship, while energy companies maintained a noticeable presence in advertising sponsorship. The primary sponsor of environmental advertisements in 2000 was Toyota. An example of an environmental advertisement sponsored by Toyota in 2000 includes a two-page spread, which features a cartoon-like drawing of traffic speeding along the bottom of the pages. A road veers off to the left of the traffic, running diagonally from the bottom left corner to the top right corner of the right page. One green car-shaped leaf is shown driving solo on the alternate route with parallel text reading: “Going our way?” The text continues along the bottom of the left page:

It’s time to take cars in a new direction. Along a cleaner, more open road that travels the outskirts of convention. That’s why we’ve created the Toyota Hybrid System, the power inside our breakthrough gas/electric vehicle, the Prius. Toyota is the first company to mass-produce a hybrid vehicle, and we’re working to develop even more advanced technologies down the road. Fasten your seatbelts. It’s going to be an exciting ride.

The right-hand page reads: “TODAY TOMORROW TOYOTA.”

Environmental advertisements were noticeably sponsored by a variety of industries and interest groups in 2010. Although the total number of ads decreased from 2000 to 2010, energy companies and interest groups primarily sponsored environmental ads. However, general consumer product organizations and the automobile industry sponsored many environmental

advertisements. Shell was the primary sponsor of environmental advertisements in 2010. An example of an environmental advertisement sponsored by Shell in 2010 includes a one-page spread, which features a young man seated with his legs crossed, reading a book at a laundry mat. A laundry basket rests at his feet, and the ad reads near the bottom of the page:

LET'S MAKE FENG'S WASHING EVEN CLEANER.
LET'S GO.

The copy continues:

What's the secret to a cleaner wash? It could be natural gas. When used to generate electricity, it's the cleanest-burning fossil fuel. Shell is helping to deliver natural gas to more countries than any other energy company. This includes China, where the fastest-growing economy needs cleaner energy. It's another example of how we're trying to build a better energy future. Let's go. www.shell.us/letsgo

The previous examples of environmental advertisements produced by dominant sponsors each year portray the prevalence of the responsibility frame in advertisements by each time period. For example, Texaco claimed responsibility for providing clean energy through its coal gasification technology in 1990. Toyota displayed responsibility through vehicle innovation by offering the first hybrid vehicle in 2000. Shell welcomed responsibility in 2010 for building “a better energy future.” These examples provide an idea of the population of environmental advertisements analyzed for this thesis. Moreover, the findings in the thesis have theoretical and practical implications that guide future research and consideration for environmental communication scholarship and practice.

Theoretical Implications

Future environmental advertising research should continue to explore the dimensions of the responsibility frame and its characteristics over time. Although many of the advertisements are image advertisements that portray companies or industries as socially responsible, findings suggest that some “responsibility” advertisements indicate that the reader has the power to mitigate environmental degradation. Other ads present environmental heroes who are unaffiliated with the sponsoring organization. These variations in the environmental responsibility frame content suggest there is variability in frame elements. Further, to whom do these advertisements appeal? Perhaps environmental advertisements that spotlight “heroes” appeal to a certain

demographic that can identify with the content portrayed in the advertisements. Different ways of framing a responsibility message could influence audience perceptions of environmental efficacy, the advertising sponsor, or an environmental issue. Thus, different frame characteristics might influence audience effects regarding environmental opinions and attitudes. Future research should explore the characteristics of the responsibility frame to inform future research on audience effects.

Advertising sponsor's motivations and intentions for producing environmental advertising content should be considered in future research. Researchers might conduct interviews with communication or advertising executives of sponsoring organizations to account for the sponsor's intentions and motivations for producing environmental advertising content. Although this study accounts for explicit frames manifest in environmental advertisements, future research should consider the relationship between explicit advertising content, sponsor motives and intentions, and target audience perceptions. Thus, audience interpretations of advertising content (i.e., whether or not newsmagazine readers perceived the advertisements in the sample to be "environmental" ads) should also be considered in future research. Various social groups likely interpret environmental advertising content in different ways. For example, citizens of the Gulf Coast likely perceive environmental advertising differently than those who were not affected by the BP oil spill. These considerations will inform the relationships between media content, production, and audience effects (Hansen, 2011).

In addition to ad framing considerations, future research should explore the dynamics of environmental advertising content and news coverage and its effect on audiences. For example, audiences who initially read the advertisements found in these U.S. newsmagazines did not read the advertisements in isolation. Rather, environmental advertising content likely interacted with other texts (i.e., articles and editorials) to shape understanding of the content. Knowledge of various media forms' influence on audience interpretations of content is imperative since the majority of Americans now use the Internet—which is capable of showing video, images, text, and audio on one webpage—to seek political information (Xenos & Moy, 2007). Convergence journalism and multimedia platforms present a new challenge for researchers but an opportunity for strategic communicators. Understanding how media compete, complement, and augment each other to influence perceptions of environmental issues is pertinent to understanding the dynamics of the greater media landscape of environmental messages.

Other fruitful areas of inquiry include exploration of the dimensions of credibility and persuasion in environmental advertising content. For example, are corporate environmental advertisements perceived as genuine communication or as attempts to enhance corporate image? Research will benefit from experiments testing if advertisements are perceived differently given the nature of sponsoring industry or business. For example, a company that manufactures food might be perceived more genuine as an automobile company. Future research should also examine if the placement of environmental advertising influences audience's perceived legitimization or credibility of advertising content. For example, the advertisements in this study were found in newsmagazines. Future research should examine if advertising in a news format is perceived as more credible than advertising in other formats. Advertising placed in news coverage might be considered a form of vetted journalism (as news is), which might enhance the advertisement's (and possibly sponsor's) credibility and legitimization. However, repeated exposure to advertising content might also influence the public's perceptions of advertising sponsors' image or perceived credibility of environmental advertisements. Research indicates people tend to disassociate the source of a message from message content over time (Hovland & Weiss, 1951). Thus, if environmental advertising messages are salient and recurring, audiences might forget the advertising sponsor but remember the advertising message.

Future research should explore the relationship between advertising content frames and public opinion. Research established the imperative role opinion leaders play in influencing the grassroots flow of public opinion in the context of climate change communication (Nisbet & Kotcher, 2009). This is an important consideration for two-step flow research, because opinion leaders not only interpret a framed media message, but also provide their own interpretation or "frame" for the message content. Therefore, the opinion leader frame is then passed on to the general public and potentially influences public discussion of environmental issues. Future research should analyze whether advertising content influences public discussion through direct exposure or through indirect means (Katz & Lazarsfeld, 1955/2006). Such research will contribute to a deeper understanding of the influence of environmental advertising in the public sphere. Strategic communicators can use such results to create campaigns that aim for appropriate target audiences. Environmental communication research focused on public opinion should explore the influence of advertising frames on the public's assessment of environmental issues. Survey research might examine people's opinions after being exposed to advertising

content to see if there is an influence on how people think about or how people discuss environmental issues. By identifying the strategies advertisers use to promote environmental appeals (whether dominant or infrequent), researchers will be in a better position to test these strategies in lab settings to understand their audience effects. Such research will inform environmental communication research and strategic communication practice. As corporations and interest groups compete for favorable public opinion (Klyza & Sousa, 2008), media messages produced by both groups may influence environmental policy support.

Energy and automobile companies dominated sponsorship of the population of environmental advertisements. This dominant sponsorship finding may result from the nature of the sponsoring industries. These industries are more susceptible to environmental issues and governmental regulation. For example, energy companies cultivate natural resources. Vehicles produced by automobile companies emit pollution through engine exhaust. Future research might develop a model for environmental advertising sponsorship. Who do environmental advertisers attempt to influence, and why? A model for environmental advertising sponsorship might also explicate the role of sponsor susceptibility to environmental controversy and the types of strategic messages appropriate for dissemination by industry.

These endeavors, along with continued exploration of the various dimensions of environmental message content, will inform a greater understanding of the media landscape by accounting for relationships among media content, production, and its effects on audiences (Hansen, 2011). Such research will inform effective strategic environmental communication practice (Ahern, 2011).

Practical Implications

Findings suggest corporations attempt to create a socially responsible image through the advertising. The fact that environmental advertisements are positive and focus on responsibility indicates advertising may serve as a type of values advocacy. The public expects corporations to concern for and respect the environment (Luntz, 2009). The omission of conflict from corporate environmental advertising reiterates Luntz's (2009) assertion that there is no public conflict with the environment. Corporations would likely want to dampen any sense of conflict surrounding the environment in order to mitigate governmental regulations on corporate business practices. Public opinion data may also suggest there are no pressing environmental issues. In fact, "8 out of 10 Americans believed that the United States should take the lead internationally in

preventing” (Nisbet & Myers, 2007, p. 465) global warming in 1990. However, “several surveys show that many citizens did not hold an opinion on the matter” (Nisbet & Myers, 2007, p. 466) ten years later. Now, the environment is not perceived as the most salient issue in the public sphere (Dunlap, 2006) and corporate environmental values are almost taken-for-granted assumptions. Perhaps the public perception is that corporations are self-regulating. If this is the case, corporations might be inoculating against harsh government regulations and influencing public debate in favor of corporate America. In any case, trends in environmental advertising, public opinion data, and environmental policy suggest that Americans, in general, may be comfortable with current environmental initiatives and market-based approaches to regulate corporate business practices.

Environmental advertising appears to focus on enhancing corporate image. Thus, advertising may be influencing public opinion, and in turn, environmental policy. Corporate advertisers seem to agree with Luntz’s (2009) assertion that “Americans really want *energy efficiency*” (Luntz, 2009, p. 10) since it was the dominant issue found in environmental advertisements in 2000 and 2010. Advertising content suggests corporations are investing in innovative technology and seeking sustainable ways to engage socially responsible business practices. The public might perceive corporate environmental initiatives and current environmental policy as acceptable since environmental concern is not the primary issue in the public sphere (Dunlap, 2006). However, economic problems might be more salient in the public sphere because they are more immediate public issues. If this is the case, environmental issues may be perceived as problems that will impact future generations rather than the current generation, and therefore, do not warrant attention until consequences are more immediate.

Future research should continue to explore the dimensions of environmental advertising content, production, and effects on audiences (Hansen, 2011). Since media framing privileges particular ways of thinking about media content (Entman, 2007), these thesis results have implications for media effects, public opinion research, and environmental policy. This thesis cannot validate effects of environmental advertising on audiences. However, environmental advertising potentially influences public opinion and environmental policy support in a variety of ways. Future research should explore the effects of environmental advertising on public opinion and the acceptability of environmental policy. Such research will provide a better understanding of the sociopolitical role of environmental advertisements in the public sphere.

Limitations

One of the limitations of this study involves the population of environmental advertisements. This study examined only full-page advertisements. While for-profit organizations were most likely to sponsor environmental advertisements found in the U.S. newsmagazines, there were environmental advertisements in the publications that were less than one full page. Since this study limited its definition to full-page advertisements, the population of ads did not account for any environmental advertisements that were less than one page. This consideration is notable since it may be that nonprofit organizations with limited budgets might not have had resources to purchase full-page advertisements. This should be a consideration for future research.

Additionally, advertising content varies by region. As indicated in the method section, this thesis relied on print issues of the newsmagazines available in Virginia Tech's Newman Library in Blacksburg, Virginia, and microfilm versions, which were published in Ann Arbor, Michigan. This thesis used both versions to check for a complete sample of ads and account for some geographic variability in advertising content. Although geographic variability in ad content was not coded in the study, there were some differences in the print versions and the microfilm versions of the newsmagazines. Future research should account for possible regional differences in advertising content. Fruitful areas of research include comparisons of regional advertising and national advertising content in media. Future research might explore sponsor motivations and intentions for national versus regional ad placement choices.

Conclusion

As a content analysis of environmental advertising in *Newsweek*, *Time*, and *U.S. News and World Report* in 1990, 2000, and 2010, this thesis provides an understanding of the types of frames used in environmental advertising content. Responsibility frames were found to be most prevalent in generic advertisements over time. The responsibility frame was the most prevalent frame in issue-specific advertisements over time. However, the conflict frame and macro-frames were found to not be present in environmental advertising. A majority of advertisements were analyzed as issue-specific ($n=305$) with the most dominant issue shifting from species/habitat protection in 1990 to energy efficiency in 2000 and 2010. Overall, advertisements were positively framed and primarily sponsored by for-profit organizations. However, the number of environmental advertisements with no explicit tone increased in 2010.

Environmental advertisements in 2010 were primarily sponsored by for-profit organizations that likely provided responsibility and energy efficiency messages. In addition to the increase in advertisements with no explicit tone, the variety of sponsor types increased in 2010. These findings suggest that corporations, particularly the energy and automobile industries, maintained a level of environmental concern (as portrayed by their advertising choices), but that environmental concern expanded as a norm in corporate advertising practices over time, regardless of industry. The consistency of responsibility frames and discussions of energy efficiency over time might suggest that corporate environmental concern is now an expectation in common public communication practice. Though advertisements are positively framed, the increase in neutral valence, discussions of energy efficiency, and the decrease in generic frames over time might suggest that advertisers do not find it necessary to incorporate appeals to human interest, conflict, consequences, or morality.

Future research should explore the dimensions of the responsibility frame as the dominant frame used in environmental advertising. Research should account for advertising sponsor's intentions and motivations for producing advertising content and audience effects in concert with analysis of manifest content. These results inform future research examining environmental media content, media effects, public opinion, persuasion, and strategic communication practice. Research should continue to understand the role of media in environmental contexts and how it might be used to facilitate awareness, understanding, and negotiation in strategic environmental communication contexts.

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Tables

Table 1. U.S. Environmental Policy from 1960 to 2010

Year	Legislation
1960	Clean Water Act
1963	Clean Air Act
1964	Wilderness Act
1965	Water Quality Act
	Solid Waste Disposal Act
1967	Air Quality Act/Clean Air Act Amendment
1968	Wild and Scenic Rivers Act
	National Trails System Act
1969	National Environmental Policy Act
1970	Clean Air Act Amendments
	Resources Recovery Act
	Occupational Health and Safety Act
1972	Federal Water Pollution Control Act Amendments (Clean Water Act)
	Coastal Zone Management Act
	Marine Mammal Protection Act
	Marine Protection, Research and Sanctuaries Act
	Federal Environmental Pesticide Control Act
	Ocean Dumping Act
1973	Endangered Species Act
1974	Safe Drinking Water Act
1975	Hazardous Waste Transportation Act
1976	Resource Conservation and Recovery Act
	Federal Land Policy Management Act
	Whale Conservation and Protective Study Act
	Toxic Substances Control Act
1977	Soil and Water Conservation Act
	Surface Mining Control and Reclamation Act
1978	National Energy Act
	Endangered American Wilderness Act
1980	Alaskan National Interest Lands Conservation Act
1981	Coastal Barriers Resources Act
	Nuclear Waste Policy Act
1983	International Environmental Protection Act
1984	Hazardous and Solid Waste Amendments
1985	Food Security Act
1986	Emergency Planning and Community Right to Know Act
	Nuclear Waste Policy Act
	Superfund Amendments and Reauthorization Act
1987	Plastic Pollution Research and Control Act
1990	Clean Air Act Amendment
	Oil Pollution Act

	Pollution Prevention Act
1993	North American Free Trade Agreement
1996	Safe Water Drinking Act Amendment
	Food Quality Protection Act
1999	Chemical Safety, Site Security and Fuels Regulatory Relief Act
2005	Energy Policy Act

Note: Key pieces of U.S. environmental legislation are included in this table. Some U.S. policies not included in this table have environmental implications. However, the goal of this table was to provide a timeline of key U.S. environmental legislation. The author created this timeline with the “Environmental History Timeline” (n.d.) as a basis and expanded and updated the timeline through documentation of other environmental or environment-related policy. Additional environmental policy timelines or resource links informed this timeline and are available (e.g., Chambers, 2006; Daniels & Daniels, 2003; “Safe Water,” 2012; “Summary of,” 2012).

Table 2. Number of Advertisements per Newsmagazine

Total $N= 449$	1990 ($n=118$)	2000 ($n=198$)	2010 ($n=133$)
<i>Newsweek</i>	32	62	45
<i>Time</i>	45	86	70
<i>U.S. News & World Report</i>	41	50	18

Table 3. Inter-coder Reliability by Category for Coder Training

Category	Reliability
Sponsor Type	.90
Issues	
Pollution	.95
Greenhouse Gas Reduction	1.00
Solid Waste	.90
Species/Habitat Protection	.90
Energy Efficiency	1.00
Energy Independence	.95
General Environment	.95
Combination*	.75
Dominant Issue	.85
Generic Frames	
Responsibility	1.00
Human Interest	.90
Consequences	.90
Morality	.95
Conflict	.90
Dominant Generic	.90
Macro-Frames	
Cynicism	.95
Speculation	1.00
Metacommunication	.90
Dominant Generic vs. Macro-Frame	.90
Valence	1.00

* Inter-coder reliability was below .85

Table 4. Inter-coder Reliability by Category for Analysis

Category	Reliability
Sponsor Type	.94
Issues	
Pollution*	.84
Greenhouse Gas Reduction	.94
Solid Waste	.88
Species/Habitat Protection	.92
Energy Efficiency	.92
Energy Independence	1.00
General Environment	.86
Combination*	.80
Dominant Issue*	.78
Generic Frames	
Responsibility	.92
Human Interest	.88
Consequences	.92
Morality	.92
Conflict	.96
Dominant Generic*	.80
Macro-Frames	
Cynicism	.96
Speculation	.96
Metacommunication	.96
Dominant Generic vs. Macro-Frame*	.80
Valence*	.82

* Inter-coder reliability was below .85

Table 5. Generic Frame Ranking by Time Period

1990 (<i>n</i> =21)	2000 (<i>n</i> =74)	2010 (<i>n</i> =49)
1) Responsibility (<i>n</i> =14, 66.7%)	1) Responsibility (<i>n</i> =64, 86.5%)	1) Responsibility (<i>n</i> =43, 87.8%)
2) Human Interest (<i>n</i> =5, 23.8%)	2) Morality (<i>n</i> =6, 8.1%)	2) Human Interest (<i>n</i> =4, 8.2%)
3) Morality (<i>n</i> =1, 4.8%)	3) Human Interest (<i>n</i> =4, 5.4%)	3) Consequences (<i>n</i> =2, 4.1%)
4) Consequences (<i>n</i> =0, 0%)	4) Consequences (<i>n</i> =0, 0%)	4) Morality (<i>n</i> =0, 0%)

Note: Frames of conflict were not found to be dominant in any of the generic advertisements (*n*=144).

Table 6. Generic Frames by Time Period

	1990 (n=21)	2000 (n=74)	2010 (n=49)
Responsibility	21 (100%)	73 (98.6%)	49 (100%)
Human Interest*	8 (38.1%)	31 (41.9%)	9 (18.4%)
Consequences	2 (9.5%)	9 (12.2%)	3 (6.1%)
Morality**	3 (14.3%)	12 (16.2%)	0 (0%)
Conflict	0 (0%)	0 (0%)	0 (0%)

* crosstab results demonstrate significance at the $p \leq .05$

** crosstab results demonstrate significance at the $p \leq .01$

Table 7. Generic Frames in Issue-specific Advertisements by Time Period

	1990 (n=97)	2000 (n=124)	2010 (n=84)
Responsibility	96 (99%)	124 (100%)	84 (100%)
Human Interest*	36 (37.1%)	29 (23.4%)	19 (22.6%)
Consequences**	32 (33%)	10 (8.1%)	10 (11.9%)
Morality**	10 (10.3%)	3 (2.4%)	0 (0%)
Conflict**	9 (9.3%)	0 (0%)	0 (0%)

* crosstab results demonstrate significance at the $p \leq .05$

** crosstab results demonstrate significance at the $p \leq .001$

Table 8. Issue Presence by Time Period

	1990 (n=97)	2000 (n=124)	2010 (n=84)
Pollution**	34 (35.1%)	23 (18.5%)	5 (6%)
Greenhouse Gas Reduction	27 (27.8%)	29 (23.4%)	22 (26.2%)
Solid Waste**	25 (25.8%)	8 (6.5%)	8 (9.5%)
Species/Habitat Protection**	29 (29.9%)	26 (21%)	2 (2.4%)
Energy Efficiency**	12 (12.4%)	70 (56.5%)	62 (73.8%)
Energy Independence*	11 (11.3%)	4 (3.2%)	3 (3.6%)
General Environment	11 (11.3%)	12 (9.7%)	17 (20.2%)
Combination	34 (35.1%)	37 (29.8%)	33 (39.3%)

* crosstab results demonstrate significance at the $p \leq .05$

** crosstab results demonstrate significance at the $p \leq .001$

Table 9. Dominant Issue Ranking by Time Period

1990 (n=97)	2000 (n=124)	2010 (n=84)
1) Species/Habitat Protection (n=25, 25.8%)	1) Energy Efficiency (n=51, 41.1%)	1) Energy Efficiency (n=39, 46.4%)
2) Solid Waste (n=21, 21.6%)	2) Species/Habitat Protection (n=17, 13.7%)	2) Greenhouse Gas Reduction (n=6, 7.1%)
3) Pollution (n=14, 14.4%)	3) Greenhouse Gas Reduction (n=13, 10.5%)	3) Solid Waste (n=5, 6.0%)
4) Greenhouse Gas Reduction (n=9, 9.3%)	4) Pollution (n=11, 8.9%)	4) Energy Independence (n=3, 3.6%)
5) Energy Efficiency (n=8, 8.2%)	5) Energy Independence (n=3, 2.4%)	5) Pollution (n=3, 3.6%)
6) Energy Independence (n=2, 2.1%)	6) Solid Waste (n=1, 0.8%)	6) Species/Habitat Protection (n=2, 2.4%)
7) Combination (n=18, 18.6%)	7) Combination (n=28, 22.6%)	7) Combination (n=26, 31.0%)

Appendix
Codebook for Content Analysis

Definition: An environmental advertisement is defined as any paid message with a primary message that makes an environmental claim. The advertisement explicitly promotes an environmental product/service, green lifestyle or idea, and/or corporate image of environmental responsibility. This study limits its definition to print advertisements that are at least one page.

Exclusions: Advertisements showing nature as a backdrop (Corbett, 2002) and advertisements discussing a biospheric element solely as an industrial product are not classified as environmental in this study, and are excluded from the sample of advertisements. Advertisements that discuss outdoor activities (e.g. hiking, bicycling) without making environmental claims are also excluded from the sample.

Coder: The coders will identify themselves by their assigned number:

- 1) Jen
- 2) Erica

Unit Number: The coder will record the assigned unit number displayed on each advertisement. The unit number will be coded on the Excel spreadsheet. Numbers follow the 000000 format, for example 602001.

Number of Pages: The coder will record the number of pages of each advertisement.

Sponsor: Coders are asked to identify the following information about the sponsor of the advertisement. The sponsor name will be coded by writing the name of the sponsor. The sponsor type will be coded by entering the corresponding number (1 or 2) below on the Excel spreadsheet.

Sponsor Name: _____

Sponsor Type:

- 1) For Profit
- 2) Not-for-profit
- 3) Government

Dominant vs. Generic: Coders will first determine if the advertisement is generic or issue-specific. Coders will code the advertisement as either issue-specific or generic.

Issues: The coders will identify the presence (1) or absence (0) of a number of issues:

- 1) Pollution
- 2) Greenhouse gas reduction
- 3) Solid waste problems
- 4) Species/habitat protection
- 5) Energy efficiency
- 6) Energy independence

- 7) General environment
- 8) Combination

Dominant Issue: After analyzing each advertisement and checking each present issue, the coders will determine which is the most dominant issue by considering the issue that is most salient in the advertisement. The dominant issue will be coded by entering the corresponding issue number from the above list into the Excel spreadsheet.

Generic Frames (1-5): The coders are asked to determine the presence (1) or absence (0) of the following frames, as listed and described below:

- 1) Responsibility
 - Does the advertisement suggest that someone or something is responsible for an environmental issue or for environmental responsibility?
 - Does the advertiser take responsibility for an environmental issue/problem in the advertisement?
 - Does the advertisement suggest you have the ability to alleviate an environmental problem?
 - Does the advertisement suggest that an organization/individual is responsible for environmental well-being?
 - Does the advertisement suggest an environmental problem requires urgent action?
- 2) Human Interest
 - Does the advertisement provide an example or “human face” on the issue?
 - Does the advertisement employ adjectives or personal vignettes that generate feelings of outrage, empathy-caring, sympathy, or compassion?
 - Does the advertisement emphasize how individuals and/or groups are affected by an issue/problem?
 - Does the advertisement go into the private or personal lives of the actors?
 - Does the advertisement contain visual information that might generate feelings of outrage, empathy-caring, sympathy, or compassion?
- 3) Consequences
 - Is there a mention of any type of losses (economic, social, political, military, etc.) now or in the future?
 - Is there a mention of the costs/degree of expense involved?
 - Is there a reference to any kind of consequences of pursuing or not pursuing a course of action?
- 4) Morality
 - Does the advertisement contain any moral message?
 - Does the advertisement make any reference to morality, God, or other religious tenets?
 - Does the advertisement offer specific (social) prescriptions or solutions about how to behave/act?

5) Conflict

Does the advertisement reflect disagreement between parties, individuals, groups, or countries?

Does one of these entities reproach the other?

Does the advertisement offer two or more sides of the problem/issue?

Does the advertisement refer to winners and losers?

Dominant Frame: After analyzing each advertisement and listing every present frame, the coders will determine which is the most dominant of the five frames (1-5) by considering the salience or the importance of the frame in the advertisement.

The dominant frame will be coded by entering the corresponding frame number (1 through 5) from the predetermined generic frame list into the Excel spreadsheet.

Macro Frames (6-8): The coders are asked to determine the presence (1) or absence (0) of the following frames, as listed and described below:

6) Cynicism

Does the advertisement reflect any attitudes of disdainful or jaded negativity, especially as a general distrust of other organization's integrity or motives?

Are there any feelings that an environmental issue/problem cannot be reversed?

Are there any feelings that ordinary people cannot influence what the powerful do?

Are there any statements implying that politicians and other powerful individuals or organizations in a society do not care about the others?

Is there any indication of (bitter) irony or sarcasm toward certain individuals or issues?

7) Speculation

Does the advertisement make any speculation about what has happened or will happen because of some environmental occurrence?

Does the advertisement make any speculation about what has happened or will happen to the environment in general?

Does the advertisement mention any hypothetical assumptions about an environmental event?

Does the advertisement ask or imply any rhetorical questions or inferences?

8) Metacommunication

Does the advertisement mention the way another entity communicates about an environmental issue/problem?

Does the advertisement critique the way another entity responds to an environmental issue/problem?

Does the advertisement include the organization's own opinions?

Does the advertisement cite other organization's messages?

Does the advertisement mention how media portray the environment?

Does the advertisement discuss the communication strategy of a particular individual or group of individuals?

Dominant Frame: After analyzing each advertisement and listing all the frames present, the coders will determine which is the most dominant of the eight frames (1-8) by considering the salience or the importance of the frame in the advertisement.

The dominant frame will be coded by entering the corresponding frame number (1 through 8) from the predetermined generic frame list into the Excel spreadsheet.

Additional Frames: The coders are asked to consider the presence or absence of the following additional frames, as listed and described below:

Episodic vs. Thematic:

1) Episodic

Does the advertisement refer to a specific instance of an environmental issue?

Does the advertisement use a concrete example of an environmental issue?

Does the advertisement use a case study to illustrate its message?

2) Thematic

Does the advertisement provide an abstract representation of an environmental issue?

Does the advertisement provide a general environmental status or outcome?

Does the advertisement use non-concrete terms to describe the environment, an environmental issue or problem?

Prognostic vs. Diagnostic:

1) Prognostic

Does the advertisement specify a particular course of action to be taken?

Does the advertisement talk about actions already being taken?

Does the advertisement tell you what needs to be done?

Does the advertisement identify a possible solution?

2) Diagnostic

Does the advertisement identify an environmental problem?

Does the advertisement attribute blame or causality to another organization or cause?

Does the advertisement simply make a statement about current environmental affairs, or a current environmental issue or problem without a solution?

Dominant Additional Frames:

- 1) *Episodic vs. Thematic:* After analyzing each advertisement and noting every present frame, the coders will determine which is the most dominant of the two frames by considering the salience or the importance of the frame in the advertisement. The dominant frame will be coded by entering the corresponding frame number (1 or 2) from the predetermined additional frame list into the Excel spreadsheet.

- 2) *Prognostic vs. Diagnostic*: After analyzing each advertisement and noting every present frame, the coders will determine which is the most dominant of the two frames by considering the salience or the importance of the frame in the advertisement. The dominant frame will be coded by entering the corresponding frame number (1 or 2) from the predetermined additional frame list into the Excel spreadsheet.

Frame Valence: The coders are asked to assess the tone of each advertisement as positive, negative, or neutral. Frame valence will be coded by writing the corresponding valence number (1 through 3) from the following list:

- 1) Positive
 - Does the advertisement seem optimistic?
 - Does the advertisement list any advantages the environment will reap for buying a product, service, or idea?
 - Does the advertisement list advantages for engaging in some environmental behavior?
 - Does the advertisement give a positive assessment of the environment?
- 2) Neutral
 - Does the advertisement give neither advantages nor disadvantages the environment will reap for buying a product, service, or idea?
 - Does the advertisement give no assessment regarding the environment?
- 3) Negative
 - Does the advertisement list disadvantages the environment will reap for buying a product, service, or idea?
 - Does the advertisement primarily draw attention to another organization that is harming the environment?
 - Does the advertisement list disadvantages for engaging in some environmental behavior?
 - Does the advertisement give a negative assessment of the environment?

Ad Focus: Coders are asked to identify the focus of the advertisement. The ad focus will be coded by writing the corresponding number (1, 2, or 3) below.

- 1) Advertiser
 - Does the ad focus on the advertiser in some way?
 - Does the ad talk about the company's image?
 - Does the ad talk about the company's environmental efforts?
- 2) Consumer/Society
 - Does the ad focus on the consumer or society in some way?
 - Does the ad try to get a consumer to buy an eco-friendly product?
 - Does the ad try to influence a consumer to engage in eco-friendly behavior?
 - Does the ad focus on society as a whole?

- 3) Industry
 - Does the ad focus on an industry in some way?
 - Does the ad talk about an industry's reputation?
 - Does the ad talk about an industry's environmental efforts?

Ad Orientation: Coders are asked to determine the presence (1) or absence (0) of the following ad orientations, as listed and described below:

- 1) Product orientation
 - Does the advertisement focus on a product incorporating environmental benefit?
 - Does the advertisement focus on the attributes of a product that make the product environmentally friendly?
- 2) Process orientation
 - Does the advertisement focus on the use of "clean" or "efficient" technologies?
 - Does the advertisement focus on an organization's technology or methods, which produce environmental benefits?
- 3) Image orientation
 - Does the advertisement demonstrate an organization's respect or concern for the environment or an environmental concern?
 - Does the advertisement align the organization with environmental well-being?
 - Does the advertisement focus on an organization's responsibility to public welfare?
 - Does the advertisement mention an organization's commitment to some public interest?
- 4) Environmental Fact
 - Does the advertisement use statistics or other data to back its claims?
 - Does the advertisement focus on an independent statement that is factual in nature regarding the environment?
- 5) Combination
 - Does the advertisement focus on two or more of the prior orientations?

Dominant Ad Orientation: After analyzing each advertisement and checking each present ad orientation, the coders will determine which is the most dominant ad orientation by considering the orientation that is most salient in the advertisement. The dominant ad orientation will be coded by entering the corresponding orientation number from the above list into the Excel spreadsheet.