Article

Organization & Environment
2015, Vol. 28(2) 223–249
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DOI: 10.1177/1086026615575332
oae.sagepub.com

The Means and End of Greenwash

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Abstract

Corporate claims about environmental performance have increased rapidly in recent years, as has the incidence of greenwash, that is, communication that misleads people into forming overly positive beliefs about an organization's environmental practices or products. References to greenwash in the literature have grown rapidly since the term was introduced more than 2 decades ago, with a sharp increase in articles since 2011. We review and synthesize this fragmented and multidisciplinary literature, showing that greenwash is a broad umbrella term that encompasses a variety of specific forms of misleading environmental communication. More research is needed that identifies and catalogues the varieties of greenwash, theorizes and models their mechanisms drawing on existing social science research, and measures their impacts on corporate performance and social welfare.

Keywords

greenwash, corporate social responsibility, symbolic management, decoupling, information disclosure

Corporate claims about environmental performance—at both the product level and the corporate level—have increased rapidly in recent years. Green advertising grew almost 300% between 2006 and 2009 (TerraChoice, 2009), and sales of green products and services were projected to climb from $230 billion in 2009 to $845 billion by 2015 (Delmas & Burbano, 2011). More than 75% of S&P 500 companies have sections of their websites devoted to disclosing information about their social and environmental policies and performance (Alves, 2009). In 2012, 176 major global firms used social media to conduct a sustainability dialogue with stakeholders, up from 60 two years earlier (Yeomans, 2013).

As corporate green claims have mushroomed, however, consumers have grown increasingly skeptical about their authenticity. They have good reason to be wary: revered advertising agency Ogilvy and Mather says that greenwashing is reaching "epidemic proportions" (Hsu, 2011). Evidence suggests that greenwashing has become an important part of corporate marketing practice over the past decade. TerraChoice, an environmental marketing firm, released a report in 2007 that studied the environmental claims of 1,018 products sold in "big box" retailers in the United States and Canada (TerraChoice, 2007). The report concluded that all but one of the products made claims that were demonstrably false or risked misleading consumers. A follow-up study in 2009 found many more products that made environmental claims and that 98% of the

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2,219 products making such claims committed at least one of the "Seven Sins of Greenwashing" (TerraChoice, 2009).[1]

Greenwashing is not without risk for companies: environmental activists and concerned citizens increasingly denounce corporate environmental efforts as simply public relations campaigns. For example, the Coca-Cola Company came under attack and was awarded a Polaris Institute "greenwashing award" when it made unverifiable claims it had cut back its water usage by about 4% annually in order to reduce its water footprint Lyon & Montgomery, 2013). In addition, companies increasingly face financial risks for making misleading green claims. For example, SC Johnson, a company with a long history of environmental initiatives, recently settled for an undisclosed sum a class-action lawsuit brought by Mr. Wayne Koh of California, who claimed that the company's "Greenlist" logo on Windex misled him into believing the product was certified by an independent third party (Hoffman, 2013).

Greenwash is also of concern to policy makers. In October 2012, the U.S. Federal Trade Commission (FTC) released a revision to its Guides for the Use of Environmental Marketing Claims ("Green Guides"). The Guides are similar to the Practical Guidance offered by the United Kingdom's Department for Environment, Food and Rural Affairs (DEFRA), originally issued in 2003 and updated in 2011. They offer best practice guidelines for avoiding misleading environmental claims. Although the Green Guides do not carry the force of law, the FTC has recently filed complaints against companies whose claims were seen as misleading to a "reasonable consumer." For example, in February 2010 the FTC warned against labeling paper plates and other products biodegradable when in fact they most often end up in landfills.

Academic research has paralleled the growing public and media concern over greenwash. The number of scholarly articles mentioning greenwash grew rapidly in recent years to a total of almost 800 English-language papers, with a sharp increase in articles since 2011. Greenwash is a topic ripe for literature review because it is important in practice, because it has become an increasingly important topic in the academic literature, and because it raises challenging issues and research opportunities at the intersection of numerous academic disciplines.

In this review, we survey and synthesize the progress that has been made in researching greenwash, but also seek to redirect that research. We argue that greenwash is a broad umbrella term that encompasses a variety of modes of misleading communication. Recent attempts to define greenwash have sometimes cast too narrow a net and missed the full range of misleading environmental communications. We call for research that identifies and catalogues the varieties of greenwash, draws on extant social science to theorize and model their mechanisms, and measures their impacts. Because greenwash occurs at both the product level and the corporate level, we also call for multilevel work that characterizes the degree of skepticism different individuals bring to corporate green claims, and explains how this heterogeneity in attitudes shapes the way stakeholder groups respond to greenwash.

In the next section, we discuss how to define greenwash, arguing for a broad notion consistent with the popular usage of the term to encompass communications that mislead receivers into adopting overly positive beliefs about an organization's environmental performance. We next discuss mechanisms of misleading communication from a variety of disciplines, before turning to a review of various trends in the literature on greenwash, which crosses disciplinary boundaries between accounting, marketing, business ethics, economics, political science, management, communications, and strategy. With this background in mind, we discuss more thoroughly the subset of the literature that takes greenwash as its primary focus, highlighting theoretical and empirical findings on the actors, antecedents, forms, and impacts of greenwash. We then turn more speculatively to forces that could help bring about the end of greenwash and finally conclude with implications for future research and practice.

What Is Greenwash?

Popular usage of the term *greenwash* encompasses a range of communications that mislead people into adopting overly positive beliefs about an organization's environmental performance, practices, or products. The website stopgreenwash.org, hosted by Greenpeace, begins with this: "Every day, Americans are bombarded with advertising about environmentally friendly goods and services. But how many really are green, and how many are just pretending?" It also says the word greenwash is "used to describe the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service." *The Concise Oxford English Dictionary* (10th Edition) defines greenwash as follows: "Disinformation disseminated by an organization so as to present an environmentally responsible public image; a public image of environmental responsibility promulgated by or for an organization etc. but perceived as being unfounded or intentionally misleading." All these notions of greenwash reflect concern with communication that misleads people into holding overly positive beliefs about an organization's environmental performance, practices, or products.

Naturally, scholars have attempted to be more precise about exactly what constitutes greenwash, but to date there is no consensus. Laufer (2003) does not define greenwashing precisely, but presents a set of elements of greenwashing that include "confusion," "fronting," and "posturing."[2] Delmas and Burbano (2011) offer a clearer definition: "Poor environmental performance and positive communication about environmental performance" (p.65).However, this definition presumes it is possible to summarize a firm's aggregate environmental performance and categorize it as negative or positive as well as to summarize a firm's aggregate communications as negative or positive. Lyon and Maxwell (2011) offer an even more precise definition: "Selective disclosure of positive information about a company's environmental or social performance, without full disclosure of negative information on these dimensions, so as to create an overly positive corporate image" (p. 9). However, this definition focuses narrowly on the disclosure of "hard," or verifiable, information about environmental performance, and misses phenomena such as vague claims, the use of visual imagery, and "image advertising."

Bowen (2014) presents the first book-length scholarly study of greenwashing. She is concerned that the academic literature on greenwashing is limited by four assumptions: (1) greenwashing is only about information disclosure, (2) greenwashing is deliberate, (3) greenwashing is initiated primarily by companies, and (4) greenwashing is beneficial to firms and costly to society. Thus, she proposes instead the broader notion of "symbolic corporate environmentalism," which she defines as the "shared meanings and representations" surrounding "changes made by managers inside organizations that they describe as primarily for environmental reasons" (p. 3). She sees greenwash as "a specific subset of symbolic corporate environmentalism in which the changes are both 'merely symbolic' and deliberately so" (p. 3).

While we share many of Bowen's concerns, our review of the cross-disciplinary literature on greenwash shows that it encompasses a range of phenomena that go well beyond information disclosure, and that greenwash can range from slight exaggeration to full fabrication. In addition, the literature (and public policy regarding deceptive advertising) strongly suggests that what people take from a communication is subjective and filtered through their own mental formations, so that greenwashing need not be deliberate. People may infer too much from even carefully circumscribed communications. The literature also shows that just like corporations, NGOs, and governments can engage in greenwashing; indeed, they may often serve as partners in corporate greenwashing. Finally, although the literature generally views greenwashing as detrimental, we agree with Bowen that it may not always be entirely bad for society, and that research needs to dig deeper and clarify when the benefits of increased "green talk" may outweigh the harms.

Consider some examples. Bowen and Aragon-Correa (2014, p. 108) mention "egregious examples of greenwashing, such as Mazda's use of the Dr. Seuss cartoon character The Lorax to 'speak for the trees' and endorse Mazda's SkyActiv technology with a 'Certified Truffula Tree Seal of Approval.'" This is clearly not an example of information disclosure; instead it involves appropriating an image from a work of children's fiction that carries certain positive associations and linking it to a product. Or consider Shell's use of an image of a smokestack with flowers sprouting from it, which DEFRA forced Shell to withdraw because it violated DEFRA's Green Guides. Such visual images are not disclosure, but many would consider them greenwash.

In view of the wide range of communications that may be considered greenwash, we argue that the literature needs to begin to think in terms of "varieties of greenwash." In both the popular and the scholarly press, the word greenwash is used to cover any communication that misleads people into adopting overly positive beliefs about an organization's environmental performance, practices, or products. We believe it makes sense to stick with this broad use of the word, and to focus scholarly attention on the various ways in which greenwash occurs. This has the benefit of aligning scholarly and popular usage of the word. Perhaps more important, this broad view of greenwash encourages interdisciplinary discussion of the important phenomenon of misleading environmental communication. To facilitate this interdisciplinary dialogue, the next section presents constructs relating to misleading communication from a variety of disciplines.

Varieties of Misleading Communication

Constructs related to "misleading" communications appear in numerous disciplines (see Table 1), especially organization theory, economics, and marketing. In this section, we describe several major mechanisms of misleading communications. Given our broad conception of greenwash, any can be a variety of greenwash if applied to environmental communications.

Organization Theory

There is a large literature in organization theory on decoupling and symbolic management. This work begins from the idea that organizations must conform to the demands of external constituencies in order to avoid censure from stakeholders and to achieve and maintain "legitimacy" (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Meyer and Rowan's (1977) foundational work warns that the very fact that conformity to social norms holds advantages for firms may incite misbehavior, and that organizations may manage outside impressions by "decoupling" their internal activities from the structural facade they present to the outside world.

In the environmental sphere, decoupling is referred to as a variety of greenwash. Decoupling is commonly used to refer to structural features of an organization, such as the creation of a Sustainability Department, which can be meaningless if the department is understaffed and has little sway within the organization. However, decoupling is also used to refer to promises or policies that are not backed up by corresponding actions, a practice often referred to as "symbolic management" (Westphal & Zajac, 1994). Making and breaking implied environmental promises is clearly deceptive (Bansal & Clelland, 2004; Delmas & Montes-Sancho, 2010; Ramus & Montiel, 2005), and hence a form of greenwash, but it is not the same as selectively disclosing hard evidence.

Emerging literature suggests that the familiar decoupling of structure and activity is retreating in the face of information technology, but that a decoupling of means and ends may be emerging in its place (Bromley & Powell, 2012). Wijen (2014) applies this line of reasoning to sustainability, an "opaque" field where causal connections are complex, and argues that if external stakeholders enforce compliance with specific practices they may inadvertently exacerbate means/ends decoupling if the practices are not sufficient to achieve the desired ends. Thus, firms and their stakeholders may jointly produce irrelevant actions that merely appear to be solving the problem of concern, creating potential for greenwash.

Table 1. Mechanisms of Misleading Behavior.

Construct	Definition	References	Examples
Decoupling	Disconnect between the structures and the activities of an organization	Meyer and Rowan (1977)	Ineffectual Environment, Health and Safety (EHS) departments
Means/End decoupling	Disconnect between the actions and the goals of an organization	Bromley and Powell (2012)	Biofuels are adopted to reduce global warming, but it is unclear they help
Symbolic management	Disconnect between promises and actions	Westphal and Zajac (1994); Ramus and Montiel (2005)	Firms promise to green themselves but do not
Halo effect	Inability to evaluate individual attributes apart from an overall impression	Thorndike (1920); Russo, Metcalf, and Stephens (2004)	Consumer learns a firm's products are organic, so also assumes they must use renewable energy
Astroturf lobbying	Covert funding of a "front group" that can make an argument more credibly than the funder	Lyon and Maxwell (2004)	"CARE for Michigan" (funded by utilities) lobbies against renewable energy
Pooling	Taking the same costly action as a more able individual in order to appear identical	Spence (1973); Delmas and Montes-Sancho (2010)	Firms join voluntary programs but do not change behavior
Selective disclosure	Disclosing positive information while withholding negative information	Lyon and Maxwell (2011); Lyon and Montgomery (2013)	"Driers help protect the environment. They save trees from being used for paper towels."
Cheap talk	Verbal claim with nothing to back it up	Farrell and Rabin (1996	Firms promise to green themselves but do not
Costly state falsification	Expending effort to distort the ability of others to verify the state of the world	Lacker and Weinberg (1989); Hamilton and Zilberman (2006)	Fraudulent ecolabels
Incomplete comparisons	Comparison for which adequate referents are not provided	Shimp (1978)	"Acme is more effective"
Implied superiority	Suggests one product is better than other without quite saying so	Snyder (1989)	"No other product is more effective"

Economics

Economics offers a wealth of game-theoretic models of interactions between parties with asymmetric levels of information. Overall, this work suggests that it is hard to deceive sophisticated, skeptical audiences.

Signaling Models. Sophisticated players are not fooled by another player's simple verbal claims to be outstanding, since they are just "cheap talk." As a result, senders of information take costly actions that they hope will "signal" their underlying type, such as obtaining a graduate degree (Spence, 1973). Crucially, such inferences are only informative if high-quality senders find it sufficiently less costly to send the signal than do low-quality senders. Otherwise, a "pooling equilibrium" emerges in which low-quality types mimic the action of the high-quality types, and receivers of information (e.g., employers) learn nothing from the action. In such an equilibrium, nobody is "fooled" into adopting false beliefs, but receivers are unable to distinguish good from bad and hence are misled about quality, being forced to assume that all are average.

Disclosure Models. Unlike signaling models, disclosure models involve attempts to persuade another player of something by releasing "hard" or verifiable information that can be credibly communicated to others. A sophisticated audience with skeptical beliefs will assume the worst unless given hard evidence to refute their innate skepticism. Thus, a failure to disclose information will be interpreted as an admission of poor performance (Milgrom, 1981) and attempts to hide information will fail. If audiences are uncertain as to whether the firm in fact possesses hard information, however, then a failure to disclose may simply indicate that the firm itself is not fully informed (Krishna & Morgan, 2001). Under these circumstances, positive disclosures can lead audiences to adopt overly favorable views of the firm's performance, that is, they can be misleading (Shin, 2003).

Costly State Falsification. Agents can also expend resources to distort what others observe about the state of the world (Lacker & Weinberg, 1989). Even if the second party is aware of the possibility of costly state falsification, there is often no way to completely undo its effects. Thus, fraud in markets with ecolabeled products may persist unless thorough audits are conducted (Hamilton & Zilberman, 2006). As another example, firms may covertly fund right-wing activist groups ("brown NGOs") to lobby against environmental protections, a practice known as "astroturf lobbying" (Lyon & Maxwell, 2004).

Marketing

The law around deceptive marketing suggests that what counts as misleading depends crucially on how individuals interpret particular claims (Oswald, 2011). From this perspective, greenwash is truly in the eye of the beholder and not an inherent aspect of a given communication. If most consumers assume "all natural" means that a product meets USDA Organic standards, then it would be misleading to make the claim that a product is all natural if it is not organic. Empirical work on misleading advertising takes a very similar view: advertising is misleading if an exposed group holds more false beliefs than a comparison group (Russo et al., 1981). Obviously some people tend to be gullible and others skeptical, and what counts as greenwash will differ between the two groups. This perspective is consistent with the literature in information economics that emphasizes whether the receiver of information holds skeptical beliefs or not.

The literature on deceptive advertising has identified a number of ways in which claims can be misleading (Darke & Ritchie, 2007). For example, incomplete comparisons suggest one product is better than another without giving details, such as "Acme is more effective" (Shimp, 1978). Implied superiority claims suggest a product is better than others without quite saying so ("no other product is more effective"), and without even necessarily establishing that any products in the category are effective (Snyder, 1989).

Another well-known phenomenon in marketing is the "halo effect," in which consumers grant products broad images or evaluations that fail to reflect granular variation in specific attributes (Kardes, Posavac, & Cronley, 2004). For example, a consumer might learn a firm's products are organic, so also assumes they must use renewable energy. Studies commissioned by the FTC show that the halo effect is important for product-level green claims, and thus an integral part of greenwashing (U.S. FTC, 2010). This phenomenon closely resembles the impact of selective disclosure as modeled by Lyon and Maxwell (2011), who show that a firm's disclosure of one positive environmental outcome can cause consumers to believe it is likely to have other positive outcomes as well.

A rich vein of research on consumer skepticism as a result of deceptive advertising also provides insight to the study of greenwash and its outcomes. This research posits that deceptive advertising may lead to consumer distrust and may have significant negative consequences for the firm and advertising more broadly (e.g., Darke & Ritchie, 2007). It also suggests that distrust caused by deception may spill over to other persons and situations. Pollay (1986) posits that deception, once detected, may lead to general distrust of communications from political and community leaders, generating a "community of cynics." The concept of greenwash specifically has to date received only limited attention in the marketing literature (e.g., Chang, 2011; Pancer & McShane, 2013), but it is widely recognized that companies seek to gain legitimacy and address stakeholder concerns through environmentally friendly product marketing (e.g., Handelman & Stephen, 1999). Similarly, several studies have noted that exaggerated or misleading environmental claims have led to consumer skepticism about green claims in general (e.g., Chang, 2011; Mohr, Eroglu, & Ellen, 1998), suggesting important impacts of deception broadly, and greenwash more specifically, on social welfare.

Trends in the Literature

In this section, we provide perspective on academic research into greenwash by presenting a variety of quantitative measures of trends in publications that mention greenwash.

Methodology

In order to assess the academic literature on the topic, and ensure our results were both replicable and valid, we used the ABI/Inform Global database, which claims to be the most comprehensive and diverse source of information on business. First, to assess the full domain of interest in greenwash, we began with a general search across the variety of outlets included in the database, which ranged from trade journals, popular press and reports through to working papers, conference proceedings, and finally scholarly journals. This search returned 5,447 articles ranging from 1980 to 2014. Next, to focus more specifically on academic research, we searched for articles in academic journals between 1950 and 2014 that contained the search term *greenwash* as well as common alternatives.[3] Because of the cross-disciplinary nature of the topic, we chose not to limit our search by subject area. This search returned 810 journal articles ranging from 1993 to 2014. For the purposes of our trends analysis, we curtailed our results at the last full year of publication, 2013, and excluded 2014 publications. We also excluded articles that appeared in our search yet were not relevant to the topic of greenwash including those appearing due to author name (Green and Wash) and descriptions of unrelated topics including biology (feather coloration), geography (topographical descriptions), antiquities (paint techniques), home appliances (green washing-machines), and literature (trends in language usage). We included only full-length peer-reviewed articles from scholarly journals and excluded book reviews, editorials, and conference papers. While some articles include only a single passing mention of greenwash, we included these in this preliminary stage of our analysis to track trends in the usage of the term in the academic literature. This process returned 793 journal articles that used the term *greenwash*.

Seeking to identify research that took greenwash as its central construct or focus, rather than simply offering a passing mention of the term, we then selected those papers that used the search terms in the title or abstract for further analysis. This search returned 105 journal articles, beginning in 1995, with 98 articles once we excluded year 2014 publications. We classified the research

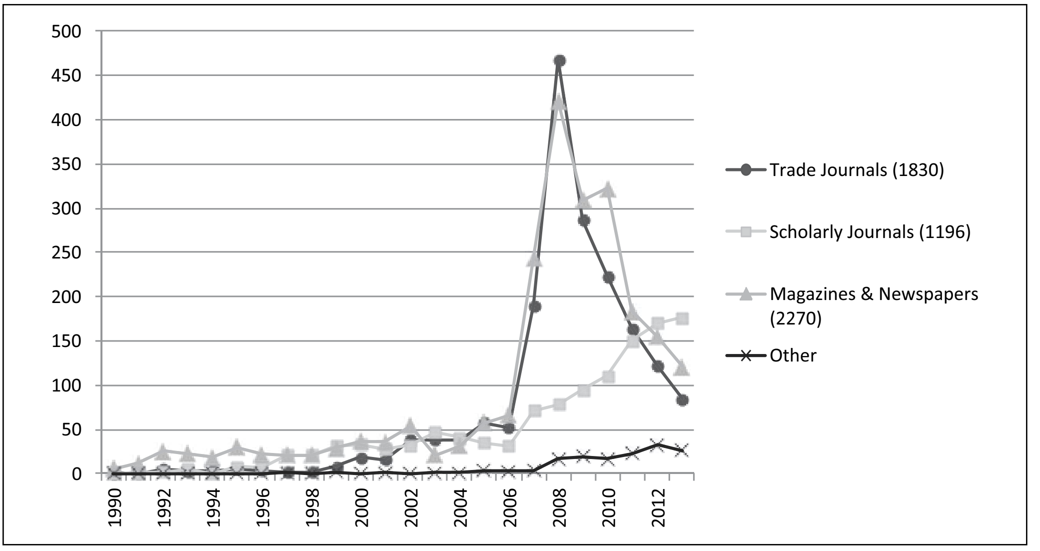

Figure 1. Annual number of articles mentioning greenwash by outlet type.

approaches taken in these 98 publications to get a sense of how the field of study is developing. To further sharpen our focus, we used the ISI Web of Knowledge (*Journal Citation Reports*) journal rankings to identify the most prominent articles among the 98 for further analysis. We included only those papers in journals that had received an impact factor ranking (1 year, 5 year, or both), but did not seek to further weigh or assess papers based on these journal rankings. Therefore, 34 journal articles that were both ranked by ISI and that included the selected search terms in the title or abstract were highlighted for more careful analysis. This more focused subset of the literature forms the nucleus of the overview of literature that follows, and these articles are indicated with asterisks in the Reference list.

Results

Our initial broad search resulted in 5,447 results across a variety of outlet types (see Figure 1). Of particular note, we see the first interest in greenwash emerging in the popular press through newspaper and magazine articles. This was soon followed by academic interest and scholarly articles, but newspapers, magazines, and particularly trade journals were the primary outlets for the discussion of greenwash throughout almost all of the period we review, reaching a combined output of 889 articles in 2008. However, articles from these outlets peaked in that same year, and in 2012 and 2013 scholarly writings on greenwash, which had continued a steady climb since their first appearance, surpassed the popular press and became the dominant outlet for greenwash publications.

Our second and more specific search, focusing on scholarly journals only (minus the exclusions described above), resulted in 793 journal articles for further analysis. These results show a growing interest in greenwash that extends across academic disciplines, with 119 papers published in 2013 alone (see Figure 2).

Next, we categorized the academic results by publication outlet. Table 2 presents a list of the scholarly journals that have published the most papers mentioning greenwash, which together represent more than one third of all papers that mention the word; we included all 15 journals that have published 8 or more articles mentioning greenwash. At the top of the list are the *Journal of*

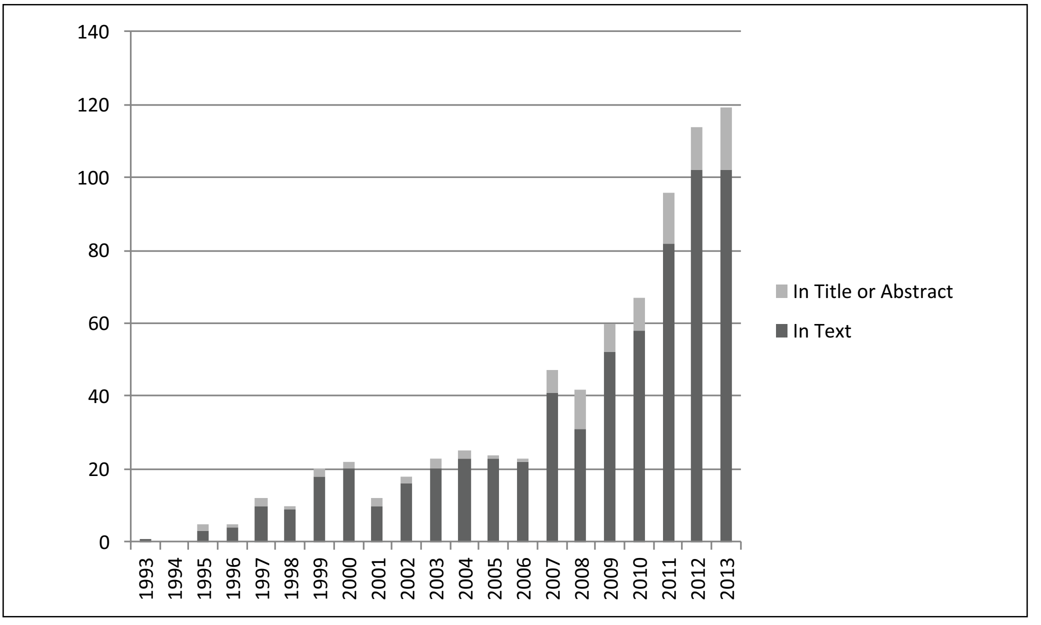

Figure 2. Annual number of scholarly journal articles mentioning greenwash.

Business Ethics (with 103 articles) and *Organization & Environment* (with 21 articles), followed by a wide range of journals covering accounting, agriculture, corporate governance, environmental economics, communications, and policy (see Table 2).

When narrowing our search to only those papers published through 2013 that used the search terms in their titles or abstracts, suggesting that the idea of greenwash was more central to the research, we found 98 papers. The number of articles in this group jumped sharply beginning in 2011, with more than 40% of these papers published since then, suggesting deepening scholarly interest in the topic.

We next reviewed these 98 articles in more detail, and characterized each paper as either "conceptual," "empirical," or "other." Conceptual papers included those raising broad philosophical issues, those offering frameworks for classifying issues related to greenwash, those offering theories that generate hypotheses about causal relationships, and papers offering formal models that give guidance regarding the magnitude of various causal relationships. Movement from one of these types to the next shows evidence of increasingly complete and robust understanding of a phenomenon, but because there are only 10 conceptual papers in the 98 we were focusing on, we did not break out the subcategories within "conceptual" further. Empirical papers included both quantitative and qualitative work, with the most common type of empirical papers being a content analysis of communication in a corporate annual report, website, or corporate social responsibility (CSR) report. Papers that did not fit into either the conceptual or empirical categories were highly varied, and included discussions, commentaries, reviews, and anecdotal and illustrative case studies.

Our categorization of the nature of the 98 academic papers reveals a wide variety of approaches to the scholarly study of greenwash and changes in these methodological approaches over time (see Table 3). This pattern is not unique to greenwash. Lockett, Moon, and Visser (2006), in a history of the field of CSR, draw on Kuhn's work on scientific progress and note a common pattern in developing research areas. Theoretical approaches tend to emerge early on and are later followed by empirical tests of these early assumptions and

Table 2. Top 15 Scholarly Journals for Greenwash Research.

Journal name	Number of articles
Journal of Business Ethics	103
Organization & Environment	21
Accounting, Auditing & Accountability Journal	17
Capitalism, Nature, Socialism	16
Alternatives Journal	13
Social Responsibility Journal	12
Agriculture and Human Values	11
MIT Sloan Management Review	11
Business Strategy and the Environment	9
Corporate Communications	9
Corporate Reputation Review	9
Management Decision	9
Corporate Governance	8
Environmental and Resource Economics	8
Journal of Communication Management	8

Table 3. Type of Research on Greenwash by Year.

		Empirical				
Year	Conceptual	Quantitative	Qualitative	Total	Other	Total
2013	4	3	3	6	7	17
2012	0	3	1	4	6	10
2011	2	2	5	7	6	15
2010	1	0	2	2	6	9
2009	0	2	2	4	4	8
2008	1	1	3	4	7	12
2007	0	1	3	4	2	6
2006	0	1	0	1	0	1
2005	0	1	0	1	0	1
2004	0	0	0	0	2	2
2003	1	0	0	0	2	3
2002	0	0	0	0	2	2
2001	0	1	0	1	1	2
2000	1	0	0	0	1	2
1999	0	0	0	0	2	2
1998	0	0	0	0	1	1
1997	0	0	1	1	1	2
1996	0	0	0	0	1	1
1995	0	0	0	0	2	2
Total	10	15	20	(35)	53	98
	10.2%	15.3%	20.4%	(35.7%)	54.1%	100%

Note. Conceptual = papers focused solely on a theoretical or conceptual contribution including theories, models, and frameworks; Empirical = papers presenting data along with analysis; Other = papers that do not offer scientific contributions including nonempirical case studies (i.e., anecdotal or illustrative examples), discussions, essays, reviews, commentaries and opinion pieces, and book reviews.

parameters. As research develops further, and consensus emerges on theory, the proportion of empirical papers begins to increase with a general shift from qualitative to quantitative theoretical approaches over time.

During the first decade of academic research on greenwash, 1995 to 2004, fully 15 of the 19 papers published were neither conceptual nor empirical; instead, papers tended to be broader and more polemical in nature. Many examined specific case studies to inductively determine what counts as greenwash and to assess what sorts of effects it might have. As the study of greenwash has matured, however, so too has the quality and rigor of academic research on the topic. During the 5 years from 2005 to 2009, half of the 28 papers were empirical, with one conceptual paper and the remainder in the "other" category. In the 4 years from 2010 to 2013, we see a growing body of theory on greenwash, with conceptual papers that include theories and models attempting to explain types of greenwash drivers, outcomes, and actors. As well, we see an expanding body of papers that offer both empirical knowledge and new theoretical insights (we classified all papers with empirical content as empirical). The empirical studies are highly varied including case studies, interviews, narrative and discourse analysis, visual imagery, and ethnographies among the qualitative approaches. The even more nascent quantitative greenwash research includes the use of surveys, experiments, simulations, and large financial data sets. Only two papers used multi-method approaches in their empirical analysis and these were classified according to the predominant method. We also note the prevalence of various forms of content analysis in these studies including both qualitative and quantitative approaches. In total, 18 empirical studies used some form of content analysis including analysis of company reports, advertising, press releases, and websites. Overall, our analysis of the types of research being employed to study greenwash reveals increasing theoretical rigor and empirical sophistication as research on the topic has matured. Nevertheless, there is only one formal mathematical model in the literature (covering selective disclosure as a form of greenwash), a relatively small number of empirical papers with large enough data sets to test hypotheses about the drivers of greenwash, and very little empirical work on the impacts of greenwash.

Finally, as mentioned above, when we restricted ourselves to papers in ISI-ranked journals with greenwash in their title or abstract, we came up with 34 articles (denoted with an asterisk in our list of References). These form the basis for our qualitative discussion and review below, but they will be supplemented with papers published in 2014 and other papers that use the related constructs discussed earlier.

The Means of Greenwash

In this and the following sections, we review in more detail the 34 papers published in ISI-ranked journals that focus on greenwash, in an effort to offer an overview and synthesis of the state of knowledge to date. In order to provide a true synthesis, we position these papers with respect to the findings and insights from the related theories and constructs identified above, and examples identified through our review of popular press and practitioner-oriented materials. We also include in the discussion papers on greenwash that were published in 2014, along with selected papers that make use of closely related concepts. This effort allows us to present a synthesis of and emerging framework for the state of theoretical and empirical knowledge of greenwash. We begin by moving beyond solely corporate involvement to identify the full array of actors who may participate in greenwash. We then present an emerging theoretical framework that captures the internal and external drivers of greenwash. Next, despite the fact that the impacts of greenwash have proven challenging to quantify, we review several papers that make promising efforts in this realm. Finally, we turn to extant theory on the deterrents of greenwash and promising avenues for seeking an "end" to greenwash.

Greenwashing Actors

The papers reviewed here overwhelmingly identify corporate actors as the primary perpetrators of greenwash (e.g., Cliath, 2007; Delmas & Burbano, 2011; Fox, 1997; Kim & Lyon, 2011, 2014; Lyon & Maxwell, 2011; Lyon & Montgomery, 2013; Matejek & Gössling, 2014; Ramus & Montiel, 2005; Relaño, 2011; Walker & Wan, 2012). However, Bowen and Aragon-Correa (2014) note that this literature, based largely in management disciplines, may offer an overly narrow view of the phenomenon. Indeed, our broad review revealed cases of greenwashing being conducted by governments (Lightfoot & Burchell, 2004; Stephenson, Doukas, & Shaw, 2012; Szili & Rofe, 2007); politicians (Boehmer-Christiansen, 1995a); university administrators (Fox, 1997; Jones, 2012); research organizations (Nelson, Earle, Howard-Grenville, Haack, & Young, 2014); environmental policy experts (Boehmer-Christiansen, 1995b); and industries (Fava, Baer, & Cooper, 2011; Lu & Realff, 2013; Mills, 2009). Studies also examine accusations of greenwash leveled at international organizations including the United Nations, World Bank, and OECD due to their involvement in programs such as the Global Environmental Facility (Young, 1999) and their promotion of "green economy" initiatives (Borel-Saladin & Turok, 2013).

These papers also highlight important concerns over greenwash within NGOs and social movements themselves. Young (1999) describes the "quandary" faced by NGOs as to whether to work within existing institutional structures, and risk co-optation and participation in greenwash, or to work from outside the system. For instance, although Al Gore's climate change awareness efforts have been lauded by some environmental NGOs, Luke (2008) explores accusations that Gore's activities may be simply greenwashing existing economic and social structures. Similarly, Lee (2009) details the efforts of a South Carolina community conservation group to "police the motives" of members in order to prevent the involvement of those who are merely "greenwashing growth" (p. 317). Finally, in an in-depth case study of the United Kingdom's 2007 Climate Camp protests and ongoing green movement, Plows (2008) explains the growing clashes over objectives and definitions of success among this broad group of activists. As the movement succeeded on many fronts, and green ideals became more mainstream, conflicts developed between "strong green" and "weak green" actors leading to accusations of co-optation and greenwash.

Drivers of Greenwash

As the literature on greenwash has matured, an increasing number of papers address the factors, circumstances, and characteristics affecting which companies are more likely to greenwash than others. Delmas and Burbano (2011) offer a broad theoretical interdisciplinary framework that incorporates a wide range of drivers of greenwash, grouping them into three levels: external, organizational, and individual. Here, we focus our review on external and organizational drivers as these have received both theoretical and empirical attention in the extant research. We begin with an emphasis on theoretical approaches before turning to empirical findings. We summarize the drivers of greenwashing in Table 4.

External drivers of greenwash include pressures from both nonmarket actors, such as regulators and NGOs, and market actors, such as consumers, investors, and competitors (Delmas & Burbano, 2011). The most important antecedent of greenwash is lax and uncertain government regulation, which creates a low chance of being punished for greenwash. This weak regulatory environment allows firms to manipulate consumer and investor demands for green products, services, and firms. Delmas and Burbano's (2011) framework also identifies several organization-level drivers of greenwashing including firm incentive structure and ethical climate, effectiveness of intra-firm communication, and organizational inertia. The authors note the interaction between the internal and external environment, emphasizing that a lax regulatory environment will lead organizational drivers to have more salient effects.

Table 4. Drivers of Corporate Greenwash.

Drivers of greenwash	Relevant academic research
External/environmental	
Lax regulatory environment	Delmas and Burbano (2011)
Weak political pressure	Delmas and Montes-Sancho (2010)
Threat of regulation	Kim and Lyon (2011)
Weak pressure from environmental groups	Kim and Lyon (2011); Marquis and Toffel (2013)
Weak relationships with government agencies	Delmas and Montes-Sancho (2010)
Weak connection to industry trade groups	Delmas and Montes-Sancho (2010)
Weak connections to global economic system	Marquis and Toffel (2013)
Internal/organizational	
Low visibility	Delmas and Montes-Sancho (2010)
Large size	Kim and Lyon (2011)
Being "relatively" green	Marquis and Toffel (2013)
Growing firms	Kim and Lyon (2014)
Firms in a service industry	Ramus and Montiel (2005)

Lyon and Maxwell (2011) offer a formal economic model of greenwash as selective disclosure. The model focuses on investors as the drivers of corporate greening, tracing the interacting effects of a firm's green reputation, the quality of a firm's internal organizational information system, and the ability of activists to punish firms for greenwashing. All firms prefer to greenwash if there is no punishment for doing so, but if activists pose a serious threat of punishing greenwash then firms will diverge in their greenwashing strategies. Firms with strong green reputations coast on them and reduce their green communications, while those with brown reputations fully disclose their performance; those with middling reputations continue to take the risk of greenwashing, especially if they do not have strong environmental management systems. Thus, the key antecedents of greenwash are middling environmental reputation, imperfect internal environmental management systems, and relatively weak environmental activists.

Most discussion of misleading environmental communications has focused on firms exaggerating their environmental performance, but it is also possible that firms will understate their environmental activities. Kim and Lyon (2014) advance a theory of "brownwash" in which firms understate their environmental activities when financial performance deteriorates, so that investors do not think they are wasting money on unnecessary green initiatives. The data support the theory, and also show that both brownwash and greenwash are attenuated by heightened scrutiny from environmental activists.

This theoretical attention to the role of the external regulatory and political environment as a driver of greenwash is echoed in several empirical papers. For example, Delmas and Montes-Sancho (2010) found that greenwash was more likely among firms that experienced less political pressure at the state level and were less dependent on local and federal regulatory agencies. Along the same lines, Kim and Lyon (2011) found that greenwashers tended to be large firms facing a threat of increased regulation, but that pressure from environmental groups reduced the likelihood of greenwash. Similarly, Marquis and Toffel (2013) found that greenwash was more likely among firms headquartered in countries with relatively weak scrutiny from activists and relatively isolated from the rest of the world.

Much of the greenwash literature has focused on the pressures placed on an organization by its external environment, suggesting greenwash is a reactive response. A smaller but promising body of research, however, suggests that greenwash can also be used strategically to proactively influence that environment and to affect field change. For example, the use of environmental discourse and rhetoric has been termed *greenwash* when used as a political tool to further otherwise unpopular infrastructure (Szili & Rofe, 2007) and energy and taxation policies (Boehmer-Christiansen, 1995a; Stephenson et al., 2012). Greenwash may also be used by organizations and actors who are attempting to maintain or preserve existing positions of power through green rhetoric and symbolic actions (Borel-Saladin & Turok, 2013; Jones, 2012; Luke, 2008; Young, 1999).

Turning to internal drivers of greenwash, Ramus and Montiel (2005) found that implementation of environmental policies was weaker in service companies than in manufacturing companies. Kim and Lyon (2014) found that growing firms, which are likely to face future regulatory interactions, are more likely to greenwash. In addition, they found that firms in highly competitive states are likely to brownwash when they have negative levels of net income, but that firms in highly regulated states do not. These results suggest that corporate environmental communications are shaped by interactions between internal and external factors.

Although the external environment has numerous impacts on greenwash behaviors, emerging literature suggests that the advent of social media inserts a further dynamic into this relationship. Lyon and Montgomery (2013) offer a theoretical framework for the impact of social media on greenwash. They posit that social media make it easier for activists to both detect and punish greenwash and hypothesize that social media will help to rein in greenwash generally, and in the process drive firms with green reputations toward less communication and firms with brown reputations toward greater communication. This framework is supported by early empirical findings on the role of social media communication of CSR showing that Fortune 500 firms with higher CSR ratings adopt Twitter earlier, develop online followers faster, receive stronger social media responses to their tweets, and are more likely to be retweeted (Lee, Oh, & Kim, 2013). In addition, the authors find that firms with high corporate social *irresponsibility* (CSIR) ratings are also more likely to be retweeted than the average, providing support for Lyon and Montgomery's (2013) analysis of "tweetjacking." Thus, additional antecedents of greenwash in light of the advent of social media may include the mode of communication used by a company, with less symmetric modes more likely to contain greenwash, and the content of a message, with corporate-level messages more likely to contain greenwash than are product-level messages since it is easier to create a green product with a clean track record than a green company with a clean track record.

Varieties of Greenwash

As mentioned above in connection with Table 3, the empirical literature on greenwash has emphasized corporate information disclosures, such as those that appear in corporate annual reports, 10-Ks, corporate sustainability reports, and reports to the Carbon Disclosure Project. However, these are by no means the only forms that greenwash can take. We highlight several varieties of greenwash below, along with examples from the academic literature. We do not claim that the list below is collectively exhaustive, as the literature is not yet mature enough for us to feel confident that all varieties of greenwash have been identified. Moreover, the items on the list may not even appear to be mutually exclusive, since a corporate annual report can include selective disclosure of verifiable information, a narrative, and photographs. Nevertheless, they are conceptually distinct.

Selective Disclosure. Selective disclosure is perhaps the most widely studied form of greenwash. It is somewhat surprising, then, that the literature finds conflicting results over whether cleaner firms issue more disclosures or not. Patten (2002) and Cho and Patten (2007) find that firms with worse environmental records (as measured by higher ratios of toxic chemical emissions to sales) have higher levels of environmental disclosures, while Clarkson, Li, Richardson, and Vasvari (2008) find that firms with better environmental records (again measured by toxic emissions) have higher levels of environmental disclosures. Philippe and Durand (2011) find that merely releasing a corporate sustainability report, even without actually making environmental improvements, improved a firm's overall reputation, although in environmentally sensitive industries a firm's environmental reputation could only be enhanced if the report was backed up by substantive improvements. Kim and Lyon (2011) find that corporate disclosures of emissions were a form of greenwash because, on average, firms that did not disclose reduced their carbon footprints while firms that did disclose actually increased their footprints.

Empty Green Claims and Policies. The literatures on decoupling and symbolic management emphasize that firms often issue claims, promises, or policies that they fail to live up to; in the environmental domain, such failures count as greenwash. In economic language, such pronouncements can be thought of as "cheap talk," and would only be expected to be convincing to stakeholders whose interests are closely aligned with those of the firm, for example, perhaps some shareholders. Bansal and Clelland (2004) find that firms with poor environmental reputations can reduce their unsystematic risk by making public expressions of commitment to the environment, suggesting that investors were indeed swayed by cheap talk. Ramus and Montiel (2005) similarly find significant evidence of greenwash via unfulfilled promises, which appears to be more likely in service industries than manufacturing industries.

Dubious Certifications and Labels. Certification to externally defined standards is often thought to be a solution to the problem of greenwash, as outlined in the following section, substituting the credibility of a third-party certifier for a firm's own claims. However, while certifications at both the product level and the company level offer significant promise in limiting greenwash, they are not immune to the phenomenon themselves. One potential problem with product-level ecolabels is that they may be vulnerable to fraud by unscrupulous producers (Hamilton & Zilberman, 2006). Based on several consumer studies, Sirieix, Delanchy, Remaud, Zepeda, and Gurviez (2013) examine the impact of the proliferation of product ecolabels on greenwash perceptions, finding that certain labels (such as supermarket house-labels) may be seen as greenwash on their own and may in turn detract from the value of otherwise trusted ecolabels when used in combination. Similarly, Lozano, Blanco, and Rey-Maquieira (2010) argue that the emergence of reports of greenwashing in an industry sector may threaten the long-run survival of successful industry ecolabeling schemes.

At the company level, ISO 14001 for environmental management is perhaps the best-known certification scheme, but evidence on its performance is mixed. In the United States, a study of more than 3,700 facilities found that regulatory compliance is higher at certified facilities (Potoski & Prakash, 2005). In Mexico, however, a study of more than 80,000 facilities found that ISO certification had no measurable impact on compliance (Blackman, 2012). And in Canada, an in-depth analysis of nine certified organizations found that at a majority of them the certification process was treated as a ritual simply to impress external stakeholders (Boiral, 2007). Thus, in some circumstances, corporate environmental certification may be a form of greenwash.

Co-Opted NGO Endorsements/Partnerships. Cross-sectoral partnerships to achieve green objectives are by no means new. Yet although success stories certainly exist (Stafford, Polonsky, & Hartman, 2000), there remains much concern over the potential for environmental NGOs to be co-opted in this process or to simply aid in greenwashing corporate activities. In an early case study of such alliances, Westley and Vredenburg (1991) document the internal dissension and external challenges from Greenpeace and others faced by a Canadian partnership between the NGO Pollution Probe and the Loblaw grocery chain over endorsement of the firm's new "green" product line. Theoretical studies on greenwash have also documented disparate views among environmental NGOs regarding when such partnerships are legitimate and when they constitute greenwash (e.g., Lee, 2009; Luke, 2008; Plows, 2008; Young, 1999).

Ineffective Public Voluntary Programs. Firms participate in government-sponsored voluntary programs for a variety of reasons, but participation may not lead to environmental improvements. For example, early participants in the EPA's Climate Leaders program reduced their carbon footprint more than nonparticipants, but late joiners did not (Delmas & Montes-Sancho, 2010); this suggests that for the late joiners, participation was a form of greenwash. Similarly, participants in the DOE's Voluntary Greenhouse Gas Registry did not reduce their carbon footprints any faster than nonparticipants (Kim & Lyon, 2011). Henriques, Bryan, and Montiel (2013) argue that the effectiveness of public voluntary programs depends on the stringency of their standards and their ability to enforce penalties against joiners who fail to meet the standards; they support this thesis with empirical evidence on two different voluntary programs in Mexico.

Misleading Narrative and Discourse. Environmental or green narratives, while sometimes indicating more substantive sustainable activities, have been used as a form of rhetoric and deception to greenwash a firm's environmental record, as was the case with British Petroleum's "beyond petroleum" campaign (Matejek & Gössling, 2014). In a study of the environmental reports of 100 *Fortune* 1000 companies, Mason and Mason (2012) use discourse analysis to identify rhetorical strategies applied at micro and macro discursive levels to shape audience members' evaluative beliefs about corporate environmental performance, and to attempt to avoid accusations of greenwash.

The role of corporate–customer discourse in greenwash may become more important with the advent of social media, although these new technologies may also help to police against misleading communications. Lyon and Montgomery (2013) emphasize the importance of communication form: defaulted (no communication), one-way communication (e.g., online annual reports), two-way asymmetric (e.g., blogs), or two-way symmetric (e.g., Facebook or Twitter). Moving along this spectrum exposes the firm to greater risk of pushback from social media users. However, the use of two-way communication in green marketing also aids firms in creating awareness and reducing confusion, and may ultimately help to avoid the impacts of greenwash accusations (Fernando, Suganthi, & Sivakumaran, 2014).

Misleading Visual Imagery. Two of the papers reviewed here explicitly address the role of visuals and symbols in greenwash. Noting that numerous luxury brands use biodiversity symbols (e.g., crocodiles, horses, jaguars) in their logos, Cervellon (2013) uses semiotics techniques to model the process by which consumers "decode" the relationship of high-status brands to sustainability. Reactions to communication of such activities vary based on brand status (ascribed vs. achieved luxury), illustrating a complex relationship between semiotics, CSR, and perceptions of greenwash (Cervellon, 2013). Cliath (2007) also examines labels at the product level, exploring product labels as a technology or artifact that allows consumers to identify social and environmental relationships behind the product.

Impacts of Greenwash

Greenwash may have both intended and unintended impacts. Organizations that engage in greenwash presumably intend to reap benefits. However, society as a whole may also be affected. While empirical research on the impacts of greenwash is still in its infancy, we discuss the extant research in this section.

Impacts on the Greenwasher. Greenwash is thought to have numerous benefits to firms. For instance, it may undermine political mobilization in support of environmental legislation reducing the ability of consumers to "vote with their pocketbooks," while also delaying needed regulatory protections (e.g., Delmas & Montes-Sancho, 2010; Hsu, 2011). Intriguingly, however, our review reveals that greenwash may in fact not pay for some of the very firms who are practicing it.

A study of 162 banks in 22 countries identifies three motives for banks participating in CSR activities—strategic choice, altruism, and greenwash (Wu & Shen, 2013). The authors find a positive relationship between CSR and various measures of financial performance, but this relationship was nonexistent for banks simply greenwashing their activities and paying "lip service" to CSR while making no substantive changes. Similarly, a study of top Canadian firms in highly polluting industries finds that greenwash and symbolic environmental activities by firms have a negative effect on financial performance (Walker & Wan, 2012). In a survey of Taiwanese electronics consumers, Chen and Chang (2013) find that greenwash negatively influences consumer confusion and perceptions of risk, reducing consumers' "green trust" of a product's environmental claims. Also considering the challenges of consumer confusion regarding CSR claims and greenwash, Parguel, Benoit-Moreau, and Larceneux (2011) develop a series of experimental studies on the impact of greenwash on consumer sustainable purchase decisions. The authors find that consumers seek to determine a company's intrinsic motivations, and understand but generally do not weigh extrinsic motivations, in evaluating CSR communications. These perceptions of a company's CSR motives mediate the effect of corporate CSR communication on brand evaluations and purchases (Parguel et al., 2011).

The limited marketing research that addresses deceptive green communications makes similar findings suggesting that perceptions of greenwash affect product judgments and purchase behaviors. Chang (2011) finds that consumers may discount the believability of green claims and form more negative evaluations, when they perceive that a firm is expending high levels of effort to persuade them of a "green claim." Pancer and McShane (2013) extend these findings with several experiments on green packaging, finding that products portrayed as environmentally friendly without sufficient substantiation lead to reduced product quality perceptions. This "greenwashing discount" negatively impacts purchase intentions.

Impacts on Society. The popular press has begun to recognize that greenwash may undermine trust in corporate environmental impacts (Hsu, 2011), as have various government agencies. Several of the papers reviewed here make early yet promising attempts to capture these impacts, suggesting that exposure to greenwash may lead to "increasing consumer cynicism and mistrust" (Jahdi & Acikdilli, 2009, p. 103), as appears to happen in other areas where deceptive advertising occurs (Darke & Ritchie, 2007). Exposure to greenwash also leaves consumers feeling both overwhelmed and confused by CSR claims and corporate motives in making such claims (Parguel et al., 2011).

The End of Greenwash

Three specific mechanisms for deterring greenwash are discussed in the greenwash literature we reviewed: pressure from civil society including social media, the use of ecolabels, and government restrictions on deceptive marketing practices.

Civil Society and Social Media Pressure

As mentioned above, several empirical papers find that strong environmental groups may deter greenwash through a variety of activities including "naming and shaming" by individuals or civil society organizations. The power of civil society to challenge greenwashing is enhanced by the emergence of social media. Indeed, some scholars hope that greenwash will soon be eliminated in the wake of advances in information technology (Bowen, 2014). Numerous websites now call attention to greenwash. For example, Greenpeace targets Shell's green communications through their website "Arctic Ready" (www.arcticready.com), which "openly mocks" the company's marketing efforts (Fernando et al., 2014). If enough consumers or investors respond, these tools can make greenwash unprofitable. Such technology may also mean that firms' misleading social media campaigns can quickly be turned against them by critical bloggers and tweeters, a process known as "tweetjacking" (Lyon & Montgomery, 2013). A danger with this approach to deterring greenwash is that firms may respond by cutting back on environmental communications (Lyon & Maxwell, 2011) or may be deterred from making improvements in the first place, with unfortunate results for society.

Various forms of evaluation of CSR efforts have also made similar attempts to address the challenges of greenwash through public attention, frequently through measures such as sustainability ratings (Parguel et al., 2011). Through a series of experiments, Parguel et al. (2011) conclude that where CSR claims have proliferated and have led to consumer confusion, independent sustainability ratings are an antecedent to consumer brand attributions and enhance the efficiency of CSR communications, helping consumers to assess corporate motives, process communications, and make responsible purchase decisions. The authors also note an asymmetric response to good and poor ratings whereby poor ratings damage corporate brand evaluation and penalize nonvirtuous firms while encouraging the virtuous to continue their CSR efforts. However, in a theoretical discussion of ratings schemes, Jones (2012) posits that the United Kingdom's university sustainability ratings system, termed *green league tables*, may have in fact served as a mechanism of greenwash, limiting campus activism and organizational citizenship efforts around sustainability.

Finally, a limited but potentially promising avenue for civil society and consumer pressure may lie at the retailer level. For example, a more prominent role for experienced and educated retailers in given product categories may alleviate challenges presented by consumer confusion and lack of trust (Chen and Chang, 2013). Similarly, retailers that emphasize labeled products may empower consumers who are seeking authentic labels to better vote with their pocketbooks (Cliath, 2007).

Ecolabeling

Perhaps the most widespread current approach to eliminating greenwash is the use of environmental certification by trusted third parties, a process often known as ecolabeling. There are many types of ecolabels currently in use. Gruère (2013) offers a typology of labels based on a set of 12 characteristics,[4] yielding in principle over half a million possible types of labels. One type of label, however, is strongly dominant in the market. It is consumer facing, focused on a single issue, oriented to renewable resources (food, agriculture, or forest products), run by a nonprofit voluntary organization, does not use life-cycle analysis, is not focused on product-level processes and production methods, is based in Europe or North America, and has a national scope. Many of the most familiar ecolabels are of this type, including Marine Stewardship Certification and Forest Stewardship Certification.

It is often thought that industry resists environmental certification, but this is frequently not the case. Several of the greenwash papers reviewed here reflect the struggles of industries ranging from banking (Relaño, 2011), tourism (Smith & Font, 2014) and hotels (Chan, 2013), to oil and gas (Stephenson et al., 2012), construction (Fava et al., 2011; Lu & Realff, 2013), and insurance (Mills, 2009), seeking to introduce green initiatives while limiting the potential for members to simply greenwash their activities. Many suggest solutions ranging from industry-wide codes of practice (Smith & Font, 2014) to product category rules that may serve to "level the playing field" (Fava et al., 2011) among industry players and to inhibit greenwash. Kirchhoff (2000) goes further to offer a conceptual economic model of the ability of a third-party labeling system, possibly combined with fines for cheating, to effectively prevent greenwash.

Although ecolabels are clearly a positive development, they suffer from a number of shortcomings. First, single-issue ecolabels can easily be used by companies interested in making selective disclosures of positive attributes while ignoring negative impacts, a form of greenwash that has been termed the *Sin of the Hidden Tradeoff*. Second, when ecolabels compete, there can be a tendency for a "race to the bottom" to emerge, weakening the inducements for improvement that labels can offer (Fischer & Lyon, 2014). Third, label competition can be rendered useless if consumers are uncertain which ecolabels are more stringent than others (Harbaugh, Maxwell, & Rousillon, 2011). Fourth, if there is inadequate monitoring and enforcement of label standards, firms may be able to fraudulently sell brown products as green ones (Hamilton & Zilberman, 2006; Kirchhoff, 2000) or pass themselves off as greener companies than they really are (Blackman, 2012; Boiral, 2007). For all these reasons, certifications and ecolabels are unlikely to deliver society to the promised land of full information. Instead, it is possible they are leading to a world of information overload and consumer confusion. Indeed, the Organization for Economic Cooperation and Development has become concerned about the impacts of label proliferation and convened discussions on the topic on June 10 and 11, 2014.

Government Regulation and Legislation

Although ratings, ecolabels, and similar independent standards are frequently cited as necessary and promising instruments to limit greenwashing, they may not be foolproof. Several papers reviewed here suggest that there may also be a need for government oversight to ensure the "availability and seriousness of such sources" (Parguel et al., 2011), while others view regulation as a "best" case scenario (Smith & Font, 2014). Firms may in fact lobby government for enhanced oversight and regulation to prevent greenwashing by competitors (Kirchhoff, 2000).

The FTC in the United States and the DEFRA in the United Kingdom revised their "Green Guides" in 2012 (U.S. FTC, 2012) in an attempt to address the recent proliferation of greenwashing. Both organizations focus squarely on marketing communications that could be "deceptive." They warn against making unqualified environmental claims and offer detailed guidance regarding what constitutes deceptive communications.

Toward this end, the FTC recently commissioned Harris Interactive to conduct a survey of 3,777 individuals to better understand the inferences consumers draw from green claims on products. The findings were striking. If consumers see a general green claim (this product is "green"), a full 27% assume the product has no negative environmental attributes at all. Larger percentages assume the product has specific attributes such as recycled content (61%), biodegradability (53%), or that it is nontoxic (45%). Even when a claim is qualified ("green—made with recycled material"), 31% assume it has other green attributes as well. Thus, companies must understand the inferences made by consumers from particular green claims to avoid complaints from the FTC.[5] The Harris findings provide strong evidence that even narrow claims create a "halo effect" for a product. The FTC has broken new ground by basing its guidance on results of emerging behavioral research.

Can the Green Guides eliminate greenwash? Section 260.4 of the new Green Guides cautions marketers about making general green claims, and specifies that if a product has been changed, and the company touts its environmental improvements, it may need to present a more comprehensive analysis if other attributes have worsened. This welcome guidance directly targets hidden tradeoffs, but its impact is limited. If a firm wishes to make narrower specific claims, such as that the product is "formaldehyde free," it is still not required to provide information about the full environmental footprint of the product. Thus, the Green Guides may reduce, but they do not eliminate, the Sin of the Hidden Tradeoff.

Implications for Future Research

Greenwash is a multifaceted phenomenon that is of great interest to both the public and, increasingly, to scholars. Because there are many varieties of greenwash, which draw interest across many disciplines, it provides an excellent ground on which to integrate scholarship regarding misleading organizational behavior and communication. By bringing together and synthesizing existing findings on greenwash, we have aimed to bring conceptual clarity to the topic, and to integrate theory and findings across disciplinary barriers. Based on our review, in this section we identify some theoretical, conceptual, and empirical gaps in our current body of knowledge, the answers to which will address theoretically meaningful and practically relevant questions for both greenwash theory, the broader literature on misleading organizational behavior, and for practice.

Interdisciplinary Dialogue on Deception

We believe greenwash provides an opening for an interdisciplinary dialogue on deception that will produce valuable new insights. Economic models of sophisticated rational agents have yielded great insight into specific ways informed agents can take advantage of uninformed agents. In reality, though, humans are highly fallible, they have limited attention spans, overestimate their own abilities, use simple heuristics instead of making thorough analyses, and naively trust others with shared backgrounds or ideologies. Research from psychology, sociology, marketing, management, accounting, finance, organizational behavior, and information science can help build more realistic models of human cognition and its vulnerability to deception and confusion. Greenwash provides a lens that can focus all these disciplines on a phenomenon of common interest and practical importance. Moreover, FTC policy requires that companies understand how a "reasonable" consumer interprets green claims, so policy makers and companies as well as scholars, need a better understanding of the cognitive processes of typical consumers.

Our cross-disciplinary review highlights areas where the greenwash literature could continue to integrate existing theory from a variety of disciplines, enrich its existing concepts, and identify important areas for new work. Like Bowen (2014), we have highlighted the need for a broader inquiry into greenwash that goes beyond corporate disclosure decisions. Scholarly work on greenwash as selective disclosure has arguably advanced the farthest, having not just a framework for analysis but also a clear theory with testable quantitative predictions and empirical work testing at least some of the hypotheses. However, rather than implying that disclosure is the only form of greenwash, this progress on one *variety* of greenwash highlights the need for further research to clarify the full range of varieties of greenwash, develop fully articulated models of each variety, and subject the models to empirical testing.

In particular, current studies of greenwash and symbolic actions have focused primarily on firms' verbal rhetoric and messaging. Little attention has been paid to the role of visual imagery and rhetoric in shaping green communications and messaging. Nascent research in communications, marketing, and even institutional theory examines the persuasive role of visual rhetoric and semiotics (e.g., Birdsell & Groarke, 2007; Lefsrud, Graves, & Phillips, 2014; Scott & Batra, 2003), suggesting that visual imagery may be more attention-grabbing, elicit richer inferences, be more pleasurable, and ultimately be more convincing than verbal statements (e.g., McQuarrie & Mick, 2003). Further research on the implications of these concepts for greenwashing, where advertisers frequently use environmental imagery and colors while avoiding making more overt verbal claims, offers significant promise.

Multilevel Impacts of Greenwash

Additional interdisciplinary insights will flow from integrating more nuanced models of human cognition with theories of organizational behavior and collective action. Greenwash research currently lacks an understanding of the effects of greenwash at the individual level within the organizations that carry on misleading behaviors, reflecting a broader neglect of micro-level processes in CSR research more generally (Aguinis & Glavas, 2012). Nascent psychology and organizational behavior studies have begun to identify important internal outcomes for green and socially responsible firms, including improved employee psychological health, trust, job satisfaction, and stronger organizational commitment (Robertson & Barling, 2013, 2014), all of which have been linked in prior research to positive organizational outcomes. These positive organizational impacts of being "green" suggest additional possible drivers of, and incentives for, greenwashing behaviors. Anecdotal evidence of employee whistle-blowing suggests that many employees are both aware of, and deeply concerned about, greenwashing practices by their own organizations and leaders. Future research should investigate whether organizations that are greenwashing have a less positive or even a negative impact on employee environmental passion and actions as well as on psychological health, trust, commitment, and productivity—all of which could negatively impact firm performance.

More work is also needed on the interactions between individual cognition and the actions of stakeholder groups. Consumers vary widely in how much attention they pay to the greenness of individual companies and products. Thus, particular communications will evoke different responses from different individuals. What happens when collective action, such as the passage of new legislation, is required to accomplish certain outcomes? Even if greenwash does not fool everyone, it may mislead enough people to preempt or delay collective action from emerging—as appears to have happened with climate change legislation (Oreskes & Conway, 2010). Further research that shows how greenwash affects the actions of stakeholders such as policy makers, activists, consumer groups, and investors is very important.

Empirical Needs

There is as yet little consensus on how to identify and measure greenwash objectively, very little knowledge about the extent of greenwashing, inadequate evidence on the drivers and deterrents of greenwash, and little knowledge of its impacts on product sales and corporate reputation, much less on broader measures of social welfare. The field badly needs thorough, careful empirical analysis of the impacts of greenwash, which requires both an ability to identify greenwash clearly and to measure its effects. Indeed, this may be the single most important thing researchers can do to move the literature forward. By identifying multiple varieties of greenwash, and attempting to link them to constructs of misleading behaviors and communication in various fields, we have tried to accelerate this process.

In particular, we still know remarkably little about the extent of greenwash and whether it is increasing or decreasing over time. The management literature has begun to question the viability of decoupling strategies over time (Bromley & Powell, 2012; Wijen, 2014) finding that internal and external pressures on the decoupled or greenwashing firm can eventually lead to "recoupling" as actors seek to adapt actual practices to match their publicly stated policies (Tilcsik, 2010). This research suggests that firms' ability to successfully greenwash may decline over time in response to stakeholder pressures. Yet empirical evidence on whether greenwash is being erased over time is sorely lacking.

In addition, the advent of social media technologies poses several emerging challenges for organizations seeking to greenwash their behaviors. Early work in this area posits that social media may benefit those firms participating in CSR activities and communicating honestly about their actions, and make successful greenwashing more challenging (Bowen, 2014; Lee et al., 2013; Lyon & Montgomery, 2013). Although this limited research suggests that social media aids consumers in responding to corporate greenwash, a recent study by Fernando et al. (2014) identifies the potential for social media and blogs to actually enhance consumers' ability to set "agendas" on sustainability and proactively influence organizations and media. There is much more work to be done in this area to explore the effects of social media on greenwash including studies of variation across communication media, changing communication demands on various stakeholders, characteristics of firms and stakeholders that participate, and the potential impact of information "overload."

Social Welfare

Last but not least is the question of whether greenwash is always socially damaging, or whether it might be socially beneficial under certain circumstances (Bowen, 2014), for example, by increasing green awareness. Most of the existing literature either does not address the broader social welfare issue directly or makes broad assertions about welfare without strong empirical support. More conceptual work on this topic is badly needed, starting with a thorough assessment of the various ways greenwash can be harmful, and the possibility that greenwash can act as an incentive to organizations to substantively green themselves further.

The welfare impacts of greenwash are especially difficult to ascertain when the scientific links between environmental actions and environmental outcomes are unclear. Well-intentioned activists may demand certain practices of companies, and companies may truthfully and precisely state what they and their products are doing to help the environment, but in the absence of scientific understanding of what makes a difference these actions may mean little (Wijen, 2014). Although further natural science research on the links between environmental actions and outcomes is clearly crucial, social scientists have an important role to play as well. Research into the complex causal processes of social change will help to clarify when small improvements pave the way for future gains and when they merely lull society into complacency and delay the larger social changes that are required.

We began this project thinking that a more precise definition of greenwash would help focus future research, but we have come to a very different view: greenwash is an umbrella term for a whole family of behaviors that induce people to hold overly positive views of an organization's environmental performance. What is needed is not to corral "greenwash" into a narrow definition but rather to flesh out the taxonomy of greenwash, measure the prevalence of the varieties of greenwash, theorize the social welfare impacts of greenwash, and identify the impacts of greenwash on greenwashing organizations and society more broadly. The study of greenwash is still young and much important work remains to be done.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. The Seven Sins are the Sins of: the Hidden Tradeoff (touts one attribute but ignores others); No Proof; Vagueness; Worshiping False Labels; Irrelevance (true but unimportant); the Lesser of Two Evils (true but ignores larger harms of product category); and Fibbing. For more details, see TerraChoice (2009).
2. Confusion (p. 257) is achieved through "careful document control and strict limits on the flow of information made available to regulators and prosecutors." Fronting (p. 257) "is realized by subordinate scapegoating or reverse whistle blowing," and may involve such strategies as "cast doubt on the severity of the problem" or "emphasize uncertainty associated with the problem." Posturing (p. 256) involves the use of "front groups" to influence legislation or suggest that particular policies enjoy widespread "grassroots" support.
3. We included the frequently used alternative spellings "green wash" and "green-wash" as well as "greenwashing," "green washing," and "green-washing."

4. The 12 characteristics are communication channel, means of communication, communication scope, communication content, standard setter, ownership, mode of governance, transparency, methods for environmental assessment, monitoring and auditing, standard focus, and standard scope.
5. The Harris research is discussed in detail in U.S. FTC (2010), but it is dispersed throughout the document, particularly in sections IV.F, V, and VI.

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Note: ISI-ranked journals with greenwash in their title or abstract are denoted with an asterisk.

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