THE DRIVERS OF GREENWASHING

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ABSTRACT

More and more firms are engaging in greenwashing, misleading consumers about firm environmental performance or the environmental benefits of a product or service. The skyrocketing incidence of greenwashing can have profound negative effects on consumer and investor confidence in environmentally friendly firms and products. In this paper, we provide a comprehensive framework that examines the external (both institutional and market), organizational and individual drivers of greenwashing and then use this framework to develop recommendations for managers, policymakers, and NGOs to decrease the incidence and severity of greenwashing in practice.

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INTRODUCTION

The consumer and capital markets for green products, services and firms have been expanding rapidly in the last decade. The consumer market for green products and services was estimated at $230 billion in 2009 and predicted to grow to $845 billion by 2015.[1] At the start of 2010, professionally managed assets utilizing socially responsible investing strategies, of which environmental performance is a major component, were valued at $3.07 trillion in the US, an increase of more than 380 percent from $639 billion in 1995.[2] More companies are now communicating about the greenness of their products and practices in order to reap the benefits of these expanding green markets. Green advertising has increased almost tenfold in the last 20 years and nearly tripled since 2006.[3] As of 2009, more than 75 percent of S&P 500 companies had website sections dedicated to disclosing their environmental and social policies and performance.[4] At the same time, more and more firms are engaging in greenwashing, misleading consumers about firm environmental performance or the environmental benefits of a product or service. Over 95 percent of products surveyed by TerraChoice in 2008/2009 committed at least one of the TerraChoice "Seven Sins of Greenwashing."[5]

The skyrocketing incidence of greenwashing can have profound negative effects on consumer confidence in green products, eroding the consumer market for green products and services.[6] Likewise, greenwashing can negatively affect investor confidence in environmentally friendly firms, eroding the socially responsible investing capital market. Greenwashing also entails some risks for greenwashing firms when consumers, non-government organizations (NGOs) or government entities question firms' claims. For example, Green Mountain Power Corporation was targeted by several environmental groups for allegedly using polluting combustion technologies for their renewable energy sources, which they marketed as "green energy."[7] Likewise, corporations have faced lawsuits for engaging in environmental false advertising. For example, Honda settled a class action suit for false and misleading statements regarding the fuel efficiency of a hybrid vehicle.[8] Why, then, do firms engage in greenwashing despite these risks? As we will show, the current context of lax and uncertain regulation is a key

driver which, when combined with the other external, organizational and individual drivers, leads to greenwashing.

A handful of authors have begun to make headway in defining the phenomenon of greenwashing[9]; empirically demonstrating the incidence of greenwashing[10]; describing the effects of greenwashing on consumers[11], on greenwashing firms and other firms[12]; and making suggestions as to how to address greenwashing. [13] Although some explanation of firm greenwashing has been put forth[14], a comprehensive analysis of the determinants of firm greenwashing is lacking, and as a result there are few tools available to managers or policymakers seeking to mitigate greenwashing. We aim to fill this void by developing a framework that examines the institutional, organizational and individual drivers of greenwashing and then use this framework to develop recommendations for how to decrease firm greenwashing.

We define greenwashing as the intersection of two firm behaviors: poor environmental performance and positive communication about environmental performance. Since the drivers of firm environmental performance are well understood[15], we treat firm environmental performance as fixed and focus on firm communication about environmental performance to simplify our discussion. That is, we describe drivers that lead firms with poor environmental performance ("brown" firms) to communicate positively about their environmental performance. Given the shorter time frame required for a firm to alter communications about its environmental performance than for a firm to change its environmental performance, our analytical focus on drivers that lead brown firms to communicate positively about environmental performance while holding firm performance constant is not only useful for analytical tractability, but is also true to shorter-term strategic decisions of managers in these firms.

To identify the drivers of greenwashing, we draw from existing work in management, strategy, sociology and psychology that has studied and established factors that can influence firm and individual behavior under various circumstances. Our framework organizes the drivers of greenwashing into three levels: external, organizational and individual. External drivers include pressures from both non-market actors (regulators and NGOs) and market actors (consumers, investors and competitors). We posit that the current regulatory environment is the key driver of greenwashing. Regulation of greenwashing is extremely limited in the US and

enforcement of such regulation is highly uncertain. In addition, variation in regulation across countries and complexity regarding appropriate jurisdiction of cross-country practices contribute to a particularly uncertain greenwashing regulatory environment for multinational corporations. The regulatory context is a critical direct driver of greenwashing due to the limited punitive consequences of greenwashing. Furthermore, the regulatory context influences the external market, organizational and individual-level drivers of greenwashing, thus acting as an indirect driver of greenwashing. The external market drivers of greenwashing include consumer and investor pressures. Consumer and investor demand for green products, services and firms is influenced by information about firm greenwashing and environmental practices, and the lax and uncertain regulatory context significantly contributes to the availability and reliability of this information. Organizational-level drivers of greenwashing include firm incentive structure and ethical climate, effectiveness of intra-firm communication, and organizational inertia. Such organizational-level drivers can become more pronounced in a lax regulatory context as firms face little incentive to put structures and processes in place to alter organizational tendencies. Individual-level drivers of greenwashing include narrow decision framing, hyperbolic intertemporal discounting and optimistic bias. These cognitive tendencies become more salient and have a greater effect on individual decision-making under conditions of uncertainty and limited or imperfect information, to which the current regulatory environment contributes.

We draw implications from the drivers of greenwashing to provide recommendations for managers, policymakers, and NGOs to decrease the incidence and severity of greenwashing in practice. Because the lax and uncertain regulatory environment is both a direct and indirect driver of greenwashing, we emphasize that more stringent, enforced regulation of greenwashing would serve as the most direct means to reduce greenwashing. We recognize, however, that effective implementation of more stringent regulation would be challenging due to a lack of clarity about what constitutes green behavior and confusion surrounding the correct use of green adjectives such as biodegradable and all-natural; and could even have the unintended consequence of decreasing firms' use of otherwise helpful green claims. Given these challenges, we consider it unlikely that there will be significant greenwashing regulatory change in the near future. Thus, we emphasize that there are also important ways that managers of both greenwashing and non-greenwashing firms, in addition to policymakers and NGOs, can work towards decreasing the incidence of greenwashing in the current regulatory context. These

include increasing the transparency of environmental performance, increasing knowledge about greenwashing, and effectively aligning intra-firm structures, processes, and incentives. Indeed, we consider the roles of managers and NGOs to be critical to reduce greenwashing in the current regulatory context.

WHAT IS GREENWASHING?

Greenwashing is the act of misleading consumers regarding the environmental practices of a company (firm-level greenwashing) or the environmental benefits of a product or service (product-level greenwashing).[16] An example of firm-level greenwashing is General Electric's "Ecomagination" campaign, which advertised the company's work in the environmental arena while it simultaneously lobbied to fight new clean air EPA requirements.[20] An example of product-level greenwashing is that of LG Electronics and its mis-certified Energy Star refrigerators. Energy Star, a government-backed third party eco-label indicating that a product meets a set of energy efficiency guidelines, certified many of LG Electronics' refrigerator models. It was discovered, however, that ten of the certified LG refrigerator models had listed erroneous energy usage measurements on their labels and did not actually meet the efficiency standards required to earn the certification.[17] More work has been done to categorize and quantify product-level than firm-level greenwashing. For example, Gillespie identifies "ten signs of greenwash", ranging from "fluffy language," words or terms with no clear meaning such as "eco-friendly," to "outright lying," totally fabricated claims or data.[18] The TerraChoice Group categorizes product-level greenwashing into "seven sins." These sins range from the "sin of the hidden tradeoff," committed by suggesting a product is green based on an unreasonably narrow set of attributes without attention to other environmental issues, to the "sin of fibbing," which is committed by making false environmental claims.[19] The other sins are the sin of no proof, sin of vagueness, sin of irrelevance, sin of lesser of two evils, and sin of worshiping false labels.

A greenwashing firm engages in two behaviors simultaneously: poor environmental performance and positive communication about its environmental performance. A firm's environmental performance can be considered to fall along a spectrum. For simplicity, we can bucket firms into one of two environmental performance categories: poor environmental performers (called "brown" firms) or good environmental performers (called "green" firms).

Noting that it would be counterproductive for a firm to actively communicate negatively about its bad environmental performance, and that brown firms will thus choose to either remain silent about their bad environmental performance or try to represent their bad environmental performance in a positive light, we can consider firms as falling along a communication spectrum ranging from no communication on one end to increasing degrees of positive communication on the other end. We can therefore organize firms into one of two categories regarding the communication about environmental performance: no communication or positive communication. Firms that positively communicate about their environmental performance, through marketing and public relations (PR) campaigns for example, can be described as "vocal" firms while those that do not communicate about their environmental performance can be described as "silent" firms. Thus, firms with good environmental performance that positively communicate about their environmental performance can be described as "vocal green firms" (quadrant II in Figure 1 below) while those that do not communicate about their environmental performance can be described as "silent green firms" (quadrant IV). Among brown firms, we describe those not communicating about their environmental performance as "silent brown firms" (quadrant III). Brown firms that positively communicate about their environmental performance are the firms of interest in this discussion, namely "greenwashing firms" (quadrant I). Indeed, firms can be categorized by their environmental performance and communication about their environmental performance as is demonstrated in Figure 1 below.

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Insert Figure 1 about here

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From Figure 1, we observe that there are two paths by which a non-greenwashing firm can become a greenwashing firm (and vice versa). First, a vocal firm can alter its environmental performance. That is, it can move from quadrant II to quadrant I in Figure 1. Second, a brown firm can alter communication about its environmental performance. That is, it can move from quadrant III to quadrant I in Figure 1.

THE DRIVERS OF GREENWASHING

To simplify our discussion about the drivers of greenwashing, we treat firm environmental performance as fixed and focus on firm communication about environmental performance. That is, we focus on the determinants of the vertical axis of Figure 1, on which the literature is sparse, and leave out of our analysis determinants of the horizontal axis of Figure 1, on which the management literature is rich. In what follows, to analyze the drivers of greenwashing, we thus describe the drivers that lead *brown* firms to *communicate positively about their environmental performance*.

Our framework draws from a base of institutional theory, which emphasizes the importance of regulatory, normative and cognitive factors in shaping firms' decisions to adopt specific organizational practices.[20] We argue that the regulatory context is a critical external institutional driver of firm greenwashing, also highlighting the role of market external-level drivers. In addition, we build upon the observation that institutional factors alone cannot explain differing strategies among firms.[21] We highlight the roles that key firm characteristics, incentive structure and ethical climate, effectiveness of intra-firm communication, and organizational inertia play in moderating a firm's reaction to the external drivers described earlier. We also describe how individual-level psychological and cognitive factors influence managers' decision-making processes and thus influence how external drivers translate into motivation for action.

We also describe how the regulatory context interacts with the market external-level drivers, organizational-level drivers and individual-level drivers to further influence a brown firm's tendency to greenwash. By affecting the availability and reliability of information about firm greenwashing and environmental performance accessed by consumers, investors, and managers themselves, and by contributing to an environment of uncertainty surrounding implications for engaging in greenwashing, the regulatory context indirectly affects the other drivers of greenwashing. The regulatory context is thus critical to understanding the phenomenon of greenwashing as a direct driver in its own right, as well as through its indirect influence on other drivers of greenwashing.

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Non-Market External Drivers: The Regulatory and Monitoring Context

Lax and Uncertain Regulatory Environment

Regulation of greenwashing in the US is extremely limited, and enforcement of such regulation is highly uncertain from the perspective of firms. The only portion of a firm's greenwashing activities that is subject to federal regulation is product or service advertising that falls under Section 5 of the FTC Act. The US Federal Trade Commission (FTC) is empowered to apply Section 5 of the FTC Act, prohibiting unfair or deceptive acts or practices, to environmental marketing claims. If the FTC finds that an advertiser violated Section 5, it can issue a cease and desist order to the violator, and if the violator does not stop the practice, the FTC may issue a fine of up to $10,000 or up to one year in prison.[22] The FTC Act also establishes criminal liability if the violation is committed with the intent to defraud or mislead. The FTC has indeed investigated and charged companies for environmental claims under Section 5 of the FTC Act, but these charges have been few and far between. According to the FTC website, such environmental cases totaled 37 from 1990 to 2000, zero from 2000 to 2009, and five in 2009.[23] Thus, despite the existence of this regulation, enforcement of greenwashing in the form of misleading product or service advertising has been limited.

Furthermore, from the perspective of firms, it is uncertain whether their environmental claims are likely to result in an FTC charge. Some FTC cases have been relatively straightforward, such as that against PerfectData Corp in 1993, which challenged "ozone friendly" and "contains no ozone depleting CFCs" claims for an aerosol cleaning product containing ozone depleting chemicals. Other FTC cases have been less straightforward, however. For example, the FTC charged Kmart in 2009 for making false and unsubstantiated claims that its American Fare brand disposable plates were biodegradable. Although the plates may have been biodegradable in compost, the FTC alleged that the defendants' products are typically disposed in landfills, incinerators, or recycling facilities, where it is impossible for waste to biodegrade within a reasonably short period of time. The FTC has acquiesced that, by these standards, even a piece of produce might not be biodegradable in a landfill within a reasonably short period of time.[24] This case points to the uncertainty that firms face regarding the applicability of Section 5 to their environmental claims. As definitions of green terms such as

"biodegradable" and "all-natural" remain unclear, firms will continue to face uncertainty regarding whether the FTC would construe their environmental claims as deceptive acts. At the state level, some states such as California have attempted to promulgate their own environmental advertising claims regulations, but states have not put forth regulation more stringent than that of the FTC. Given the limited history of FTC charges, firms likely perceive the risk of being punished by the FTC for engaging in greenwashing practices as low probability on average; as such, the current US regulatory context does little to deter greenwashing.

US multinational firms operating in countries outside the US are also subject to the regulations of the host countries in which they operate. In some countries, including most developing countries, there is no regulation of environmental claims; in other countries with such regulation, regulatory standards vary by country. International equivalents of the US FTC include the Advertising Standards Authority (ASA) in the UK, the Australian Competition and Consumer Commission (ACCC), and the Canadian Standards Association (CSA). The CSA and Canadian Competition Bureau released "Environmental Claims: A Guide for Industry and Advertisers" in 2008, which requires companies to provide support for their environmental claims and discourages the use of vague claims such as "green." Misleading advertising by a corporation is punishable by fines, product seizure and imprisonment. In the UK, the Department for Environment, Food and Rural Affairs (DEFRA) issued guidelines similar to those of the FTC and CSA, and which also take into account the international standard of environment claims, the ISO 14021. The ISO 14201 is an international standard developed by the International Organization for Standardization, which specifies requirements for self-declared environmental claims. It lists terms commonly used in environmental claims, gives qualifiers for their use, and describes a general evaluation and verification methodology. Adherence to these standards is voluntary, although a handful of countries such as Australia, France and Norway have backed the ISO 14201 with enforceable fines and penalties. Indeed, the variation in regulation across countries and complexity regarding which practices are legally subject to which countries' regulation contributes to a highly uncertain context of greenwashing regulation for multinational corporations.

In addition, the US government does not currently mandate corporate disclosure of environmental practices, with a few exceptions such as toxic releases. Mandatory disclosure of

environmental practices and third-party auditing of such information would make it more difficult for brown firms to get away with greenwashing, even if greenwashing practices themselves were not regulated, since consumers, investors, and NGOs would be able to compare a firm's communications with reliable information about the firm's environmental practices. The current state of voluntary disclosure of environmental information by firms does little to deter greenwashing, however.

Activist, NGO, and Media Pressure

Given the limited formal regulation of greenwashing, uncertainty about enforcement in the US and lack of international consistency of such regulation, activist groups and NGOs, along with and through the media, currently play a critical role as informal monitors of firm greenwashing. By campaigning against and spreading information about incidents of greenwashing, these organizations work towards holding brown firms accountable for positively communicating about environmental performance.

Greenpeace's "stopgreenwash" site includes articles about greenwashing firms and SourceWatch's site maintains a list of greenwashing case studies, thus providing information about greenwashing incidents to interested individuals. Sites such as goodguide.com and EWG's Skin Deep Cosmetics Database provide information on product-level environmental characteristics that interested green consumers can access to inform their purchasing decisions.

Activist and NGO-led campaigns against greenwashing firms can have a much wider reach, spreading information about firm greenwashing incidents to an audience larger than that accessed by informational websites that rely on the interested individual to seek information. For example, the Coastal Alliance for Aquaculture Reform of Vancouver, British Columbia successfully used a campaign strategy to reduce ocean pollution from salmon farms that used floating nets. The Alliance targeted a retailer that sold farmed salmon – Safeway – because of its proclaimed policy of being a good environmentalist and corporate citizen.[25] The group took out a large advertisement in the New York Times featuring dead seals and salmon feces under the heading "Ingredients for Extinction," playing on Safeway's "Ingredients for Life" advertising campaign. The case of Safeway demonstrates that a firm's active communication about green or socially responsible practices can lead to more intense activist, NGO and media attention.

Another example is the boycott led by activists and NGOs against Green Mountain for marketing energy sources that used polluting combustion technologies as "green energy."[26] Activists' and NGOs' access to consumers and the public has increased through use of Twitter and Facebook, YouTube campaign videos, and other Internet based platforms. These platforms have significantly decreased the costs and time required to share information. Green activists and environmentally oriented nonprofits on the lookout for greenwashing thus have an easy, inexpensive means to spread information about and campaign against greenwashing incidents.

Activists, NGOs and the media provide a threat of public exposure for greenwashing, which likely deters some brown firms from positively communicating about their environmental performance. As consumers, the public and investors become more interested in environmental issues, environmental activist groups become more powerful and can exert more influence and pressure on companies. Members of the media are also more likely to report on issues of greenwashing as these stories become more likely to capture reader interest. The increased interest in environmental issues amongst consumers, investors, and the general public has thus strengthened the role that activist groups and the media can play in punishing firms for greenwashing or in deterring firms from greenwashing in the first place due to the potential threat of being exposed. However, given the limited formal regulation and enforcement of greenwashing, NGOs and the media can only bring about reputational damage to greenwashing firms. The threat of exposure by activists, NGOs or the media would have much more of a deterrent impact on greenwashing if there were legal ramifications for being "caught" and exposed for greenwashing. This would require more stringent and enforced formal regulation of greenwashing.

Market External Drivers: Consumer, Investor and Competitor-Induced Incentives

In addition to the "nonmarket" external context, market external drivers (including consumer demand, investor demand, and competitive pressure) are critical to understanding why some brown firms choose to communicate positively about their environmental performance and thus greenwash.

Brown firms face pressure from both consumers and investors to appear to be environmentally friendly and thus face incentives to communicate positively about their

environmental performance, particularly as there are few legal or regulatory ramifications for doing so. All else being equal, the greater the perceived consumer and investor pressure for environmentally friendly firms, the more likely a brown firm is to greenwash.[27]

The competitive landscape is also a critical part of the market environment in which a brown firm faces the decision of whether to communicate positively about its environmental performance. Organizations tend to model themselves after similar organizations in their industry or field that they perceive to be more legitimate or successful, and research has shown that this applies to the adoption of green practices.[28] This suggests that some firms might be communicating about supposed green practices for fear of falling behind their rivals who have already begun to do so. UBS adopted a more progressive policy on climate change after an internal report was compiled demonstrating that the company lagged behind its competitors in publically committing to help mitigate global warming, for example.[29] Thus, as positive communication about green practices becomes more and more common within an industry or group of competitors, a brown firm in that industry or competitive group is more likely to positively communicate about its environmental practices and greenwash.

Limited greenwashing regulation and uncertain enforcement of this regulation influences and interacts with the market external-level drivers, specifically consumer and investor demand. Consumers cannot be confident that, if a brown firm were to falsely communicate about its environmental practices, it would be caught and punished for doing so. As we noted before, if greenwashing practices continue to go unchecked by regulation, it is possible that green consumers will become increasingly cynical about green claims, eroding the market for green products and services. Similar to the case of consumers, it is challenging for investors and funds following Socially Responsible Investing (SRI) or environmental assessment strategies to correctly assess firms on these dimensions when there is a lack of verifiable information available to them.[30] Just as rampant, unchecked greenwashing could erode the consumer market for green practices and services in the future, it could also erode the capital market for socially responsible investing.

Organizational-Level Drivers

The nonmarket and market external drivers combine to create an environment that incentivizes brown firms to greenwash. External factors are not interpreted within a vacuum, however. Organizational-level drivers including firm characteristics, incentive structure and ethical climate, effectiveness of intra-firm communication and organizational inertia mediate and influence the way that firms respond to the external drivers.

Firm Characteristics

Firm-level characteristics such as size, industry, profitability, lifecycle stage, and particular resources and competencies undoubtedly influence the overall strategies available to a firm, the costs and benefits associated with any particular action, and the degree to which a firm experiences the external pressures described earlier.

The expected benefits to brown firms of positively communicating about environmental performance have been alluded to in our discussion of external pressures; in particular, increased access to green consumers and investors. Such potential benefits vary with basic firm characteristics. Consumer products firms likely face greater levels of consumer pressure to appear to be environmentally friendly than service firms or firms in non-consumer products industries, for example. Likewise, large, publically traded firms tend to be the focus of analysis by the SRI community; as such, these firms likely face greater levels of investor pressure than smaller, private firms.

The expected costs to brown firms of positively communicating about environmental performance - that is, the likelihood and costs associated with being caught for greenwashing - also vary with basic firm characteristics. Consumer products firms are most subject to product-level regulation under Section 5 of the FTC act. Consumer products firms are also most likely to be targets of campaigns seeking to garner public outrage due to greenwashing, although the increasing use of social media sites and viral ad campaigns to garner support for a wide range of issues has increased the potential for such scrutiny to be applied to a wider range of firms. Larger firms with well-known brands are more likely to be subjected to activist and media scrutiny because they are more likely to garner public attention.[31] Also more likely to be targeted by

activists and NGOs are firms belonging to industries which are renowned for poor environmental performance, such as the oil and other utilities industries. Indeed, oil and utilities companies commonly top greenwashing lists such as Greenpeace's Top Greenwashers list. More profitable firms with higher margins are better able to withstand bottom line shocks from reputational damage for being "caught" by NGOs for greenwashing than less profitable firms with lower margins. They can also more easily incur fines by the FTC for deceptive environmental product claims, as well as litigation costs of being sued for such claims.

Incentive Structure and Ethical Climate

In addition to basic firm-level characteristics such as size, profitability and industry, it has been shown that firm incentive structure and ethical climate can be determinants of firm ethical behavior.[32] Unethical behavior has been described as behavior that has a harmful effect on others and is either illegal or morally unacceptable in the larger community[33]; greenwashing fits this definition of unethical behavior. As such, we can draw from existing literature on incentives and ethical climate as drivers of unethical behavior to further inform our understanding of why a brown firm might engage in greenwashing.

It has been demonstrated that incentives that reward managers for attainment of arbitrary financial goals often results in unethical behavior.[34] Such incentives have been purported to explain General Electric's defrauding of the government on a missile-warhead contract in 1985, for example.[35] Likewise, incentives to reward on-time performance and punish late performance have been claimed to directly contribute to unethical behavior by Eastern Airlines in 1990 that resulted in indictments for falsification of maintenance records after required maintenance was not performed.[36] Applying these findings to the case of greenwashing, we infer that incentives to reach arbitrary marketing or PR quotas, particularly quotas for communications that portray the firm in an environmentally friendly or socially responsible light, would increase the likelihood that a brown firm would greenwash. Indeed, such incentives could drive managers to take short cuts in validating the truth to their communications messages or cause managers to "look the other way" if they have reason to question the validity of certain communications messages.

Somewhat related to incentive structure is ethical climate. Organizational behavior scholars describe a firm's ethical climate as composed of organizational members' shared

perceptions and beliefs that certain ethical reasoning or behaviors are expected norms for decision making.[37] The ethical climate of an organization can be categorized as consisting of one of three basic types based on bases of moral judgment: in an egoistic climate, company norms support the satisfaction of self-interest; in a benevolent climate, company norms support maximization of overall well-being; and in a principled climate, company norms support following abstract principles independent of situational outcomes such as external legal mandates or internal codes of ethics.[38] Unethical behavior has been shown to occur more frequently in organizations or organizational subunits in which egoistic, rather than benevolent or principled, ethical climates dominate.[39] Although the ethical climate theory contends that predominant ethical climates tend to be intractable and difficult to change, studies nevertheless point to the effectiveness of implementing ethical codes and other explicit firm standards of conduct to reduce unethical behavior, even within dominantly egoistic climates.

As greenwashing is an example of unethical behavior, we infer from the ethical climate literature that greenwashing is more likely to occur among brown firms with egoistic, rather than benevolent or principled, ethical climates. This literature also suggests that firms with ethics codes and explicit firm standards of conduct in place are less likely to greenwash. To the extent that such ethics codes or standards of conduct explicitly include directives about the importance of truthful communication and representation of firm behavior, such codes and standards would likely diminish the likelihood of greenwashing by a brown firm.

Organizational Inertia

In addition to recognizing incentives and ethical climate as important determinants of firm behavior, the management literature has increasingly recognized organizational inertia as a factor which influences and explains firm behavior.[40] Organizational inertia is the strong persistence of existing form and function that underlies and hampers strategic change. Organizational inertia is more likely to be prevalent in larger, older firms than in smaller, newer firms.[41] Thus, particularly among larger, older firms, organizational inertia could explain a lag naturally occurring between a manager's declaration of green intent and implementation of this intent, or between a CEO's declaration of commitment to greening the company and the rest of the company's alteration of structure and processes to truly green the company.[42] This disconnect could be particularly prevalent in firms that are transitioning between CEOs or during mergers

and acquisitions. For example, BP's chief executive, Bob Dudley, may have engaged in greenwashing partly due to organizational inertia. He was criticized by the media for doing "little but talk about improving safety since he took the reins" of BP after taking over for Tony Hayward in the wake of the Macondo well explosion.[43] It is possible that, despite his intent to change processes and procedures to improve BP's safety, such changes took longer than anticipated to implement due to organizational inertia.

Effectiveness of Intra-firm Communication

Another internal firm characteristic that is cited in the management literature to explain firm behavior is effectiveness of intra-firm communication. Internal transfers of knowledge within a firm are often sticky or difficult to achieve, and suboptimal internal transfer of knowledge can help to explain firm behavior such as less innovation.[44] Suboptimal transfers of knowledge within a firm could also help explain inadvertent greenwashing by brown firms, suggesting that firms with ineffective communication between marketing/PR departments and product development, production or packaging departments are more likely to greenwash, all else being equal. For example, a marketing or PR department could overstate the greenness of a product due to a miscommunication or lack of communication with a product development department, packaging department, or suppliers of a product's components.

Organization scholars have analyzed factors that inhibit knowledge sharing among subunits such as the lack of direct relationships and extensive communication between people from different subunits. In the product innovation literature focused on knowledge dissemination it is argued that close and frequent interactions between R&D and other functions lead to project effectiveness.[45] Applying this concept to the context of greenwashing, we can hypothesize that a lack of frequent and close interactions between intra-firm divisions such as marketing and product development can act as an important driver of greenwashing.

Effectiveness of intra-firm communication, as well as firm incentive structure and ethical climate, are also affected by the regulatory context. In a lax regulatory context against greenwashing, there is little incentive for firms to ensure that organizational characteristics such as incentive structures and ethical climate are aligned to minimize greenwashing, or to put

processes in place to improve effectiveness of intra-firm communication in order to decrease the likelihood that firms will greenwash due to these organizational drivers.

Individual-Level Psychological Drivers

In addition to highlighting the importance of external factors and firm-specific factors in explaining greenwashing, we recognize the role that leaders and individuals play in explaining firm behavior by applying findings from psychology. The psychology, behavioral decision theory, and behavioral economics literature contends that tendencies such as narrow decision framing, hyperbolic intertemporal discounting and optimistic bias become more salient and have a greater effect on individual decision-making under conditions of uncertainty and limited or imperfect information, often referred to as bounded rationality.[46] The current regulatory environment contributes to the conditions of bounded rationality. Indeed, the uncertain enforcement of firm greenwashing regulation (limited currently to Section 5 of the FTC Act) from the perspective of firms, as well as a lack of standardization in relevant host country regulation, contributes to uncertainty about the negative consequences of greenwashing. In addition, employees, managers and firm leaders have limited tools to evaluate and thus have limited information regarding firm greenwashing activities (although some progress has been made in establishing criteria with which to evaluate product and service advertising greenwashing - e.g., TerraChoice's Seven Sins of Greenwashing[47] framework). As managers in a brown firm deciding whether to communicate positively about environmental performance are making this decision in a context of uncertainty and imperfect information, we can infer that these managers are likely to exhibit these psychological tendencies. The regulatory context is therefore an indirect driver of firm greenwashing in that it exacerbates the individual-level drivers of greenwashing, namely narrow decision framing, hyperbolic intertemporal discounting and optimistic bias.

Narrow decision framing, sometimes called narrowing bracketing, is the tendency to make decisions in isolation.[48] An example of narrow bracketing or decision isolation is the statistical fact that consumption does not adjust downward when people receive bad news about future income shocks such as losing their job.[49] Decision-makers within a firm may decide today to communicate about the greenness of a product or firm without adequately considering what is

required to implement this in the future, resulting in greenwashing down the road. Or a decision-maker or firm leader may focus on the short-term gains from greenwashing without adequately weighing the long-term potential negative effects on loss of reputation when making a decision, resulting in greenwashing. To mitigate this tendency, psychology and behavioral scholars note that maintenance of a broader decision frame can be influenced by how performance is evaluated.[50] The tendency toward narrow decision framing can thus be moderated with an appropriately aligned incentive structure.

Another cognitive tendency that could lead to greenwashing is hyperbolic intertemporal discounting. Psychologists have concluded that discount functions are hyperbolic; that is, characterized by a relatively high discount rate (impatient) over short horizons and a relatively low discount rate (patient) over long horizons.[51] This function has been used in psychological studies of temptation, self-control and procrastination, and has been applied to analyze consumption and savings decisions. Hyperbolic discounting generates what is often referred to as dynamic inconsistency, or preference reversals. Hyperbolic consumers, for example, exhibit a gap between their long-run goals and their short-run behavior. They will not achieve their desired level of "target savings" because short-run preferences for instantaneous gratification undermine efforts to implement patient long-run plans. In the context of cognitive factors that could lead to firm greenwashing, when a decision as to whether to communicate about firm environmental performance is being made today, a manager or firm leader could choose to communicate actively about the environmental sustainability and social responsibility of the firm with an intention to bear the costs to implement green practices in the future. When the future becomes today, so to speak, the decision-maker once again acts impatiently and chooses to greenwash.

Optimistic bias, the tendency for individuals to over-estimate the likelihood of positive events and under-estimate the likelihood of negative events, may also contribute to greenwashing. Optimistic bias arises in part because forecasts of future outcomes are often anchored on plans and scenarios of success rather than on past results.[52] Pervasive optimistic biases can take three main forms: unrealistically positive self-evaluation, unrealistic optimism about future events and plans, and an illusion of control.[53] A survey of new entrepreneurs about their chances of success and the chances of success for enterprises similar to theirs demonstrates

this bias. 80% perceived their chances of success as 70% or better, and 1/3 described their chances of success as 100%. These chances of success were uncorrelated to objective predictors of success such as college education, prior supervisory experience and initial capital. Yet the mean chance of success they attributed to a business like theirs was 59%.[54] Decision-makers may over-estimate the likelihood of the positive results of greenwashing, namely, gaining green market share and attracting capital from SRI investors, and under-estimate the likelihood of negative events resulting from greenwashing such as being caught by the FTC, facing consumer litigation, or receiving negative media or NGO scrutiny. This could increase the likelihood that a decision maker within a brown firm would choose to communicate positively about firm environmental performance and thereby greenwash.

MANAGERIAL AND POLICY RECOMMENDATIONS

As we described, the lax and uncertain regulatory context is not only a driver of greenwashing in itself, but also interacts with the market external, organizational, and individual level drivers of greenwashing. As such, it is crucial for understanding the phenomenon of firm greenwashing and is a critical lever by which firm greenwashing could be reduced. Greenwashing regulation currently applies only to miscommunication about product or service environmental performance; there is no regulation for miscommunicating about firm environmental performance. Regulation of firm-level greenwashing would certainly increase punitive consequences and deter brown firms from positively communicating about their firm's environmental performance. In practice, however, difficulty in measuring and assessing the degree of firm-level greenwashing makes this a daunting regulatory challenge. This challenge obviates the need for more theoretical and analytical work on identifying and measuring firm-level greenwashing, similar to the progress that has been made in recent years in identifying and measuring product-level greenwashing. More stringent regulation of product and service environmental claims should also deter brown firms from positively communicating about the environmental qualities of their products and services, but confusion about green terminology and measurement makes more stringent product-level regulation difficult to implement and contributes to challenges of consistently enforcing even existing regulation.

In this section we thus propose recommendations for managers, policymakers and NGOs to decrease the incidence of greenwashing in the current regulatory context. From Figure 1, we observe that there are two paths to decrease greenwashing. One is for vocal firms to improve firm environmental performance. That is, firms could move from quadrant I to quadrant II in Figure 1 (from greenwashing firms to vocal green firms). The second path is for brown firms to stop positively communicating about environmental performance. That is, firms could move from quadrant I to quadrant III in Figure 1 (from greenwashing firms to silent brown firms). As our analysis of the drivers of greenwashing focused on the second path, our recommendations also focus on this path; we suggest how managers, policymakers and NGOs can enable and incentivize brown firms to stop communicating positively about environmental performance and thus, stop greenwashing. Namely, we contend that these actors can decrease the incidence of greenwashing by improving the transparency of firm environmental performance, by facilitating and improving knowledge about greenwashing, and by effectively aligning intra-firm structures, processes and incentives. We argue that a multi-stakeholder approach including managers, policymakers and NGOs could be effective to reduce greenwashing in the current regulatory context. Our recommendations are summarized in Table 1 and developed below.

***

Insert Table 1 about here

***

Increase Transparency of Environmental Performance

In our analysis of the drivers of greenwashing, we highlighted that the lack of information available about firm environmental performance contributes to greenwashing in numerous ways: stakeholders such as consumers and investors are unable to hold firms accountable for communication about their environmental performance; managers do not have readily-available information by which to analyze their firm's environmental performance and compare this with communications about environmental performance; and managers are limited in their ability to make the most informed decisions regarding communication about environmental performance due to increased salience of psychological tendencies. Thus, increased transparency about firm environmental performance would decrease brown firms'

incentives to positively communicate about environmental performance and would reduce the incidence of greenwashing, even in the current regulatory context. It has also been demonstrated that firms themselves benefit from increased transparency about environmental performance in the form of less unsystematic stock market risk.[55] We suggest that such transparency could be achieved through both mandated and voluntary corporate disclosure of firm-level environmental performance, and view policymakers, NGOs and managers as playing central roles in such an endeavor.

Mandate Disclosure of Environmental Performance

Policymakers. There are successful examples of mandatory environmental information disclosure policies in the US including the Emergency Planning and Community Right-to-Know Act of 1986, a federal policy that mandated disclosure of toxic release inventory information. State policies such as those of California that require new vehicles to be labeled with a global warming score and that require electric utility companies to disclose their fuel mix and pollution discharge statistics to consumers are also examples of mandatory environmental information disclosure policies.[56] Such mandatory disclosure policies have facilitated the monitoring of environmental performance indicators by NGOs and interested consumers and investors, and have also succeeded in changing firms' internal reporting mechanisms.[57] Mandated disclosure of a broader range of indicators of firm environmental performance and management practices would, through the mechanisms described earlier, help decrease the incidence of greenwashing. Indeed, mandatory annual environmental reporting similar to those of numerous European countries including Australia, France, Spain and the Netherlands would significantly improve environmental performance transparency in the US. Studies have found that introduction of mandatory environmental performance reporting in Australia in 1998 significantly improved reporting.[58] Likewise, mandatory disclosure of product-level environmental performance indicators similar to that of the product-level nutritional content mandated by the FDA would improve the availability and reliability of product-level environmental information for consumers and NGOs looking to hold firms accountable for their environmental communications at the product level; as well as force managers to be aware of the environmental "content" of their products. Mandated disclosure without monitoring the truthfulness of reporting could lead to incentives for firms to lie about or exaggerate their environmental performance. As such,

verification or occasional auditing of reporting would be a necessary complement to mandated corporate disclosure of environmental performance indicators. To the extent that the verification process itself were made transparent, consumers and the public would have greater confidence in the reported information.

NGOs. In an environment of mandatory corporate disclosure of environmental performance information, NGOs can play an important role as information aggregators and disseminators. Likewise, NGOs can use the disclosed information to identify the good and bad environmental performers and share this information with the public, thus pressuring poor environmental performers to improve their environmental performance. Scorecard.goodguide.com is an example of a website which aggregates information on toxic chemical releases and enables interested individuals to easily discover the worst polluters by region. By making this information easily accessible by the public, the site helps hold firms accountable for their toxic chemical release performance.

Promote Voluntary Disclosure of Environmental Performance

In areas where disclosure of environmental performance is not mandatory – namely, all product-level environmental performance metrics and most firm-level environmental performance metrics – NGOs, some government entities, and managers can play an important role in promoting voluntary disclosure of environmental performance information. Voluntary product-level environmental performance information has been and should continue to be facilitated by NGO and government-sponsored ecolabels, while managers can facilitate disclosure of voluntary product and firm-level environmental performance information by their firms. As voluntary disclosure of environmental performance gains momentum, more firms will be incentivized to voluntarily disclose information about environmental performance.

Policymakers and NGOs. NGO-sponsored ecolabels such as Green Seal and government-sponsored eco-labels such as the Department of Energy's Energy Star label and the USDA Organic label play an important role in informing consumers about products that meet certain environmental standards.[59] An extension of such ecolabels or creation of new third-party ecolabels applied to a broader range of products and product characteristics would provide consumers with more verified, reliable product-level environmental information. Whenever possible, policymakers and NGOs should work together to centralize and standardize ecolabeling

processes in order to increase the credibility of eco-labels and reduce consumer confusion from the proliferation of different ecolabels. With limited consumer understanding about the differences between ecolabels, firms have the incentive to stamp products with their own supposed ecolabels or with logos similar to existing third-party ecolabels. SC Johnson, for example, settled class action lawsuits that challenged its Greenlist logo, a propriety image the company put on its products that met internal standards for less-harmful products.[60] This is a form of greenwashing referred to as "the sin of worshiping false labels" by TerraChoice. Standardizing and streamlining the ecolabels in use would improve consumer recognition and understanding of ecolabels and thus reduce the incentive for firms with a brown product to positively communicate about the environmental characteristics of the product by using proprietary or knock-off ecolabels. The Design for the Environment ecolabel is an example of government entities and NGOs working together, as the ecolabel program is run by the Department of Energy but is implemented with input and collaboration from a number of NGOS including the Sierra Club and NSF.[61]

Managers. Managers in non-greenwashing firms can voluntarily and transparently disclose information about environmental performance. Research has shown that transparency about environmental performance can be beneficial to firms by enhancing stakeholders' perceptions of such firms, even when liabilities are disclosed.[62] A prime example of this is the case of Patagonia and its Footprint Chronicles, an online portal where consumers can trace the impact of Patagonia products along each step of the supply chain. In full disclosure, Patagonia shares "the bad," "the good" and "what they think" (an environmental cost-benefit analysis and information about how they will improve). As Patagonia's founder puts it: "we put the bad things up front and admit our shortcomings."[63] Despite deepening global recession, Patagonia sales reached $315 million in 2008, the year the Footprint Chronicles launched (up from $270 million the year before).[64] In 2009, Yvon Chouinard was named one of US News and World Report's "America's Best Leaders."[65]

Managers can also share best practices and collaborate with other firms, NGOs and government entities to share information about internal structures, processes, and incentive systems that enable them to monitor and improve their firm's environmental performance and ensure that they do not greenwash. The collaboration between Wal-Mart and Patagonia to create the Sustainable Apparel Coalition with the goal of working together to develop an industry-wide

supply chain index that measures water and energy use, greenhouse gas emissions, and waste is an example of collaboration and sharing of best practices among firms. The coalition has expanded and now includes such entities as Levi Strauss & Co., Li & Fung, Marks & Spencer, Nordstrom, Otto Group, and REI as well as the Environmental Protection Agency. This coalition is thus also a prime example of collaboration between firms and government agencies to improve environmental performance and decrease greenwashing along the supply chain. The collaboration between the Environmental Defense Fund and Wal-Mart to reduce greenhouse gas emissions and identify other opportunities for environmental performance improvements is another example of how firms can partner with NGOs to assess and improve their environmental focus. In addition, firms should collaborate with objective third parties to certify the environmental characteristics of their products. The use of third-party certified ecolabels sponsored by government entities or NGOs is an example of this. The extension of collaborations between firms, NGOs and government entities to include sharing of best practices and standards-setting with respect to *communication* about environmental performance, not just environmental performance, would further decrease the incidence of greenwashing.

Facilitate and Improve Knowledge about Greenwashing

In the current regulatory context, the FTC sheds light on some cases of greenwashing, but many incidents of greenwashing go unpunished by the FTC. Increased and more coordinated sharing of information about cases of greenwashing helps to punish firms for engaging in the practice and deter some brown firms from communicating positively about environmental performance due to fear of reputational damage. We view NGOs as continuing to play a critical role as monitors and information providers given the current lax regulatory context. In addition, firms suffer from an information problem – uncertainty surrounding the regulatory punitive consequences of greenwashing. Decreasing the uncertainty surrounding enforcement of greenwashing regulation would reduce the uncertainty that contributes to individual-level cognitive factors that lead to greenwashing; as well as deter some firms with a brown product from positively communicating about environmental characteristics of that product because they are unsure whether the FTC will actually come after them for their actions. We view policymakers and NGOs as key to reducing this uncertainty and improving firm understanding about the punitive consequences of greenwashing.

Gather and Share Information about Incidents of Greenwashing

NGOs. NGOs have been stepping up to play the roles of monitors and information providers given the context of limited regulatory oversight of firm environmental performance and communication. TerraChoice has made important forays in informing consumers about the high incidence of product greenwashing and in helping consumers identify product greenwashing through its Sins of Greenwashing reports, for example. NGOs should continue to make such information available to consumers, and should also work to help consumers identify firm-level greenwashing behavior (in addition to product-level greenwashing behavior). NGOs should continue to use internet-based venues such as viral videos and social media sites to reach a broad public audience and to place pressure on greenwashing firms. Although the information being provided by NGOs fills an important void, NGOs should be aware that the proliferation of NGO-sponsored websites and blogs could contribute to consumer confusion. Thus, NGOs should increase collaboration amongst themselves in order to reduce consumer confusion in differentiating between and interpreting the various NGO-sponsored sites and blogs providing information about environmental performance and communication about this performance. NGOs could also increase collaboration with socially responsible investors to identify the environmental performance information of interest to this stakeholder group. This would enable an NGO or group of NGOs to gather and provide this information to the socially responsible investor community, helping to address the lack of verifiable information available to socially responsible investors and mediate one of the drivers incentivizing brown firms to positively communicate about their environmental performance.

Reduce Regulatory Uncertainty

Policymakers and NGOs. Decreasing the uncertainty surrounding enforcement of greenwashing regulation would reduce the uncertainty that contributes to individual-level cognitive factors that lead to greenwashing, as well as deter some firms with a brown product from positively communicating about environmental characteristics of that product because they are unsure whether the FTC will actually come after them for their actions. More explicit communication by the FTC about the types of greenwashing actions that will be pursued as a violation of Section 5 would help decrease this uncertainty. The FTC's Green Guides currently provide guidance for firms regarding environmental marketing claims, including examples of

good green product and service advertisements and qualifying claims to include in advertisements, and is a step in the right direction. The FTC should continue to conduct research and hold workshops to inform its understanding about consumer interpretation and understanding of green terminology used in environmental advertising, and could increasingly collaborate with NGOs for organization of and participation in these types of workshops. The UK Department for Environment, Food and Rural Affairs (DEFRA)'s Green Claims Guidance report was based partly on research it commissioned to understand how consumers interpret green phrases, for example.[66] NGOs could also play a role in facilitating adoption of uniform international standards for disclosure and advertising regulation, which would help reduce the regulatory uncertainty faced by multinational corporations.

Effectively Align Intra-firm Structures, Processes, and Incentives

Managers. Managers can take steps to counteract the organizational and individual-level drivers that can lead to greenwashing. They can alter firm structures, institute processes and procedures, and provide incentives and training to address these drivers. Furthermore, managers can be cognizant of the tendency for individual-level psychological tendencies to cloud optimal decision-making, particularly when information is limited and repercussions are uncertain, and keep in mind that organizational inertia can make change slow to implement.

Improve Information Related to Environmental Communication Decisions

Increased centralization of decisions related to environmental communication would reduce the potential for greenwashing resulting from ineffective intra-firm communication. For example, increasing the sustainability officer or department's oversight to other divisions and geographic offices would reduce the likelihood that a lack of communication between, for example, marketing, product development, and supply chain management divisions within and across countries results in greenwashing. The institution of standards and requirements for internal gathering and sharing of information on environmental performance indicators from product design and manufacturing divisions with communications and PR departments and between country offices would also improve the effectiveness of intra-firm communication and decrease the likelihood of greenwashing. Adoption of ISO 14001, the G3.1 Guidelines (a core element of the Global Reporting Initiative's Sustainability Reporting Framework) or other such

established standards would also facilitate sharing of relevant information. Likewise, managers could look to leading firms for best practices regarding institution of internal information gathering and sharing processes. When planning to implement such procedural and structural changes, managers should keep in mind the tendency of organizations to exhibit organizational inertia and should thus carefully assess the flexibility and speed with which their organization can change to achieve desired goals. A series of incremental changes within existing structures and processes may be more feasible to implement effectively in the short term than a radical structural or procedural change. Likewise, when engaging in strategic analysis and planning of firm environmental performance and communication goals, managers should keep in mind the cognitive tendency to over-estimate the likelihood of positive events and to act impatiently in the short term.

Provide Ethical Leadership and Training for Employees

Managers could seek to mold their firm's ethical climate into one that facilitates ethical behavior and deters greenwashing by implementing ethics courses or training that is specifically designed to inform employees about the risks to the firm of greenwashing, drivers of greenwashing, and how to avoid greenwashing. Likewise, managers could institute ethical codes and explicit firm standards to promote an ethical climate that diminishes the likelihood of unethical behavior. Encouraging a culture of open communication and collaboration between employees and divisions would also facilitate effective intra-firm communication. The role of the CEO and firm leaders in setting the ethical climate and culture of the firm would be particularly important in implementing a culture or ethical climate change within an organization. For example, in 2008, the CEO of Wal-Mart, Lee Scott, told an audience "We're not green," setting the stage for a degree of modesty in the retailer's communication about environmental performance and recognition that it needed to improve.[67] The company has since made improvements to its environmental footprint, but has not over-communicated about these improvements. The retailer's Frito-Lay's SunChips campaign about the solar power behind its chip plant has been described as "proud, but not overly boastful about saving the world." [68]

Align Employee Incentives

The adjustment and alignment of employee incentives is an important means to reducing the likelihood of greenwashing. First, managers could seek to eliminate incentives likely to lead

to greenwashing. Such incentives would include, for example, rewarding marketing department employees for incorporation of environmental messages into communications by counting the number or reach of such marketing products without regard to the accuracy of such claims. Managers could also reward employees for identification of greenwashing claims or punish employees during their performance reviews for playing a role in a greenwashing incident, thus encouraging employees to broaden the elements under consideration when making relevant decisions and decreasing the tendency for employees to make decisions in isolation that could result in greenwashing.

CONCLUSION

The prevalence of greenwashing has skyrocketed in recent years; more and more firms have been combining poor environmental performance with positive communication about environmental performance. Greenwashing can have profound negative effects on consumer and investor confidence in green products and environmentally responsible firms, making these stakeholders reluctant to reward companies for environmentally friendly performance. This, in turn, increases the incentives for firms to engage in environmentally detrimental behavior, which has been shown to create negative externalities and thus negatively affect social welfare. For managers, regulators, and NGOs who seek to implement policies or take actions to decrease the incidence of greenwashing, it is critical to understand the factors that drive greenwashing in the first place in order to determine how best to counteract them. A simple framework that organizes drivers into external-level drivers (the regulatory and monitoring context, as well as market drivers), organizational-level drivers and individual-level drivers sheds light on why many brown firms choose to positively communicate about their environmental performance and thus greenwash (Figure 2).

Limited and imperfect information about firm environmental performance, as well as uncertainty about regulatory punishment for greenwashing, contribute directly to greenwashing and also indirectly influence greenwashing through the external market, organizational and individual-level drivers. Indeed, cognitive tendencies such as narrow decision framing, hyperbolic intertemporal discounting, and optimistic bias are heighted as individuals make decisions based on increasingly limited or imperfect information, and as uncertainty increases.

Regulators and NGOs can thus take actions to improve the availability of information and decrease uncertainty about punishment for engaging in greenwashing to moderate these cognitive tendencies. At the same time, managers can adjust incentives and take steps to counter these individual-level cognitive tendencies as well as the organizational-level drivers of greenwashing. Our recommendations emphasize that a multi-stakeholder approach including managers, policymakers and NGOs could be effective to reduce greenwashing in the current regulatory context by improving the transparency of firm environmental performance, by facilitating and improving knowledge about greenwashing, and by effectively aligning intra-firm structures, processes and incentives.

There is still much work to be done to fully understand, identify and measure firm greenwashing. In putting forth a framework which describes drivers of greenwashing along three dimensions – external, organizational and individual – we hope to have contributed to an understanding of the causes of greenwashing, and in doing so, have moved forward the discussion about what policymakers, NGOs, and firms can do to reduce the incidence of greenwashing.

Figure 1: A Typology of Firms based on Environmental Performance and Communication

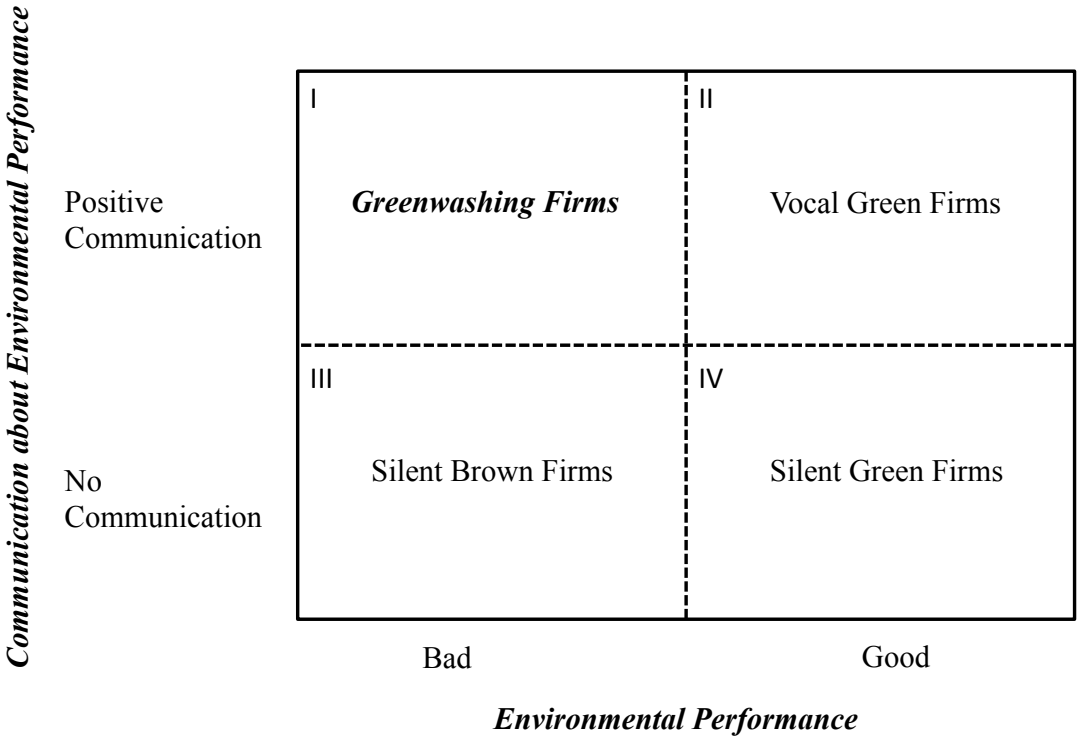

Figure 2: Drivers of Greenwashing

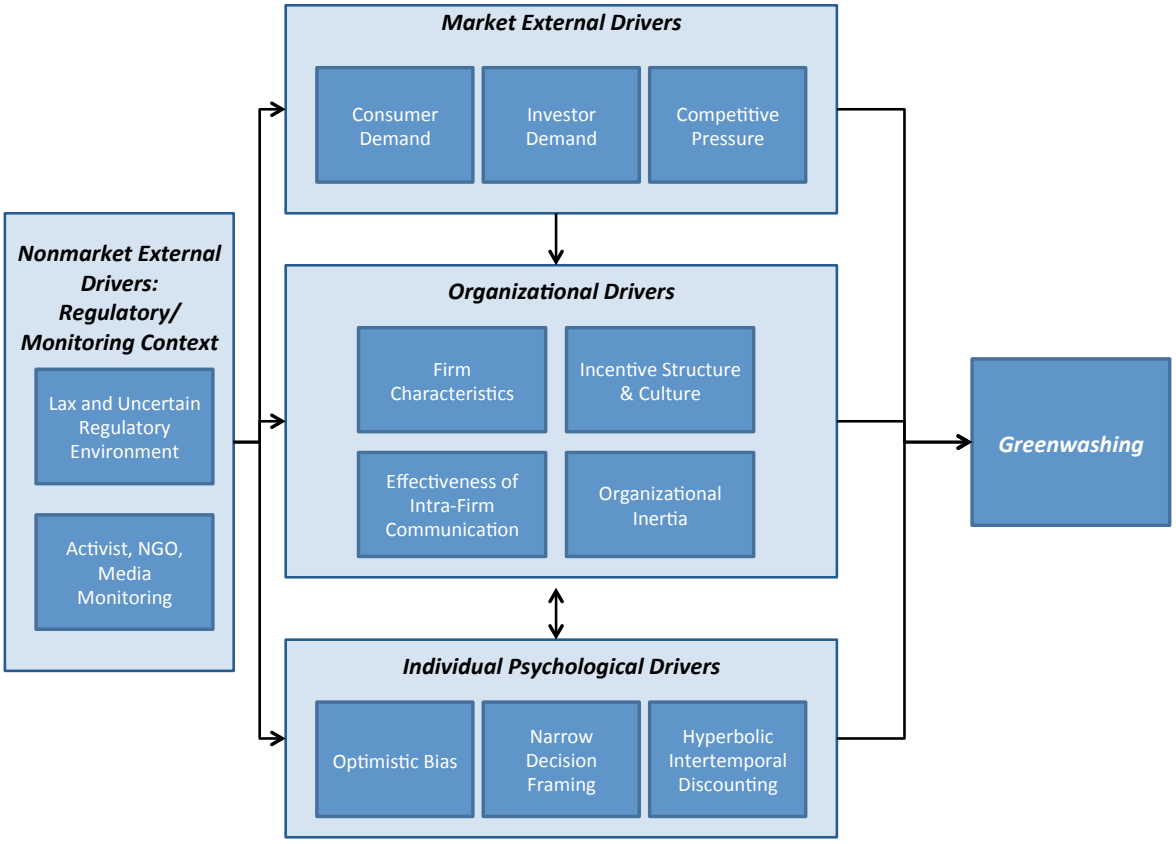

Table 1: Recommendations to Decrease Positive Communication by Brown Firms

Recommendations		Implementation by Stakeholders
Increase Transparency of Environmental Performance	Mandated Disclosure	**Policymakers** • Mandate annual disclosure of firm level environmental performance metrics • Mandate disclosure of product environmental characteristics • Verify reporting or collaborate with NGOs to do so **NGOs** • Aggregate and diffuse environmental performance information
	Voluntarily Disclosure	**Policymakers and NGOs** • Extend/create new ecolabels for a broader range of product characteristics, while standardizing/collaborating to reduce consumer confusion **Managers** • Voluntarily disclosure firm and product environmental performance • Share best practices, collaborate with other firms, NGOs, government
Facilitate and Improve Knowledge about Greenwashing	Gather and Share Information about Greenwashing Incidents	**NGOs** • Continue to leverage internet-based venues to reach broad audiences to call out greenwashing firms • Collaborate amongst NGOs to reduce consumer confusion re sites and blogs providing info re greenwashing
	Reduce Regulatory Uncertainty	**Policymakers** • FTC to explicitly communicate types of actions that will be considered to violate Section 5 of the FTC Act • Research consumer understanding of green terminology to inform Green Guides **NGOs** • Facilitate adoption of uniform international standards for advertising and environmental disclosure regulation
Effectively Align Intra-firm Structures, Processes and Incentives	Improve Information Related to Environmental Communication Decisions	**Managers** • Increase centralization of decisions regarding environmental communication • Institute standards and requirements for internal gathering and sharing of information on environmental performance indicators with Communications and PR divisions • Share information among firms regarding best practices • Carefully assess flexibility and speed with which firm can implement change implement incremental changes • Keep in mind tendency to over-estimate likelihood of positive events and act impatiently in the short-term
	Provide Ethical Leadership and Training	**Managers** • Provide ethics courses and training to inform employees of the risks and how to avoid greenwashing • CEO to emphasize ethical behavior and honest communication
	Align Employee Incentives	**Managers** • Eliminate perverse incentives, e.g., environmental communication counts • Reward employees for identification of greenwashing claims • Punish employees involved in contributing to greenwashing

Notes

1. Heidi Tolliver-Nigro, "Green Market to Grow 267 Percent by 2015," Matter Network, June 29, 2009, available at <www.matternetwork.com/2009/6/green-market-grow-267-percent.cfm>, accessed May 7, 2011.
2. Social Investment Forum Foundation, "2010 Report of Socially Responsible Investing Trends in the United States, Executive Summary," available at <www.socialinvest.org/resources/pubs/>, accessed May 7, 2011.
3. TerraChoice Group, Inc.,"The Seven Sins of Greenwashing," 2009, available at <www.sinsofgreenwashing.org/findings/greenwashing-report-2009/>, accessed May 7, 2011.
4. Igor Alves. "Green Spin Everywhere: How Greenwashing Reveals the Limits of the CSR Paradigm," *Journal of Global Change and Governance*, II/1 (Winter/Spring 2009).
5. TerraChoice Group, Inc., op. cit.
6. Nancy Furlow, "Greenwashing in the New Millennium," *Journal of Applied Business and Economics*, 10/6 (2009): 22-25.
7. See <www.boycottgreenmountain.com/> accessed May 7, 2011.
8. Eric Lane, "Consumer Protection in the Eco-Mark Era: A Preliminary Survey and Assessment of Anti-Greenwashing Activity and Eco-Mark Enforcement," *The John Marshall Review of Intellectual Property Law* (2010): 742-773.
9. William S. Laufer, "Social Accountability and Corporate Greenwashing," *Journal of Business Ethics,* 43/3 (2003): 253-261; Ed Gillespie, "Stemming the Tide of Greenwash," *Consumer Policy Review*, 18/3 (2008): 79-83.
10. Michael Polonsky, Judith Bailey, Helen Baker, Christopher Basche, Carl Jepson, and Lenore Neath, "Communicating Environmental Information: Are Marketing Claims on Packaging Misleading?" *Journal of Business Ethics,* 17/3 (1998): 281-294.
11. Furlow, op. cit.; Lane, op. cit.
12. Furlow, op. cit.
13. David Gibson, "Awash in Green: A Critical Perspective on Environmental Advertising," *Tulane Environmental Law Journal* (2009): 423-440; Jacob Vos, "Actions Speak Louder than Words: Greenwashing in Corporate America," *Notre Dame J.L. Ethics & Public Policy*

(2009): 673-697; Thomas P. Lyon and John W. Maxwell, "Greenwash: Corporate Environmental Disclosure under Threat of Audit," *Journal of Economics and Management Strategy,* 20/1 (2011): 3-41.

14. Catherine Ramus and Ivan Montiel, "When Are Corporate Environmental Policies a Form of Greenwashing?" *Business and Society*, 44/4 (2005): 377-414.
15. See, for example, Juan Alberto Aragón-Correa, "Strategic Proactivity and Firm Approach to the Natural Environment," *Academy of Management Journal*, 41/5 (1998): 556-567; Magali Delmas and Michael Toffel, "Organizational Responses to Environmental Demands: Opening the Black Box," *Strategic Management Journal,* 29/10 (2008): 1027-1055
16. TerraChoice Group, Inc., op. cit. defines greenwashing as "the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service."
17. Lane, op. cit.
18. Gillespie, op. cit.
19. TerraChoice Group, Inc., op. cit.
20. Paul DiMaggio and Walter Powell, "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields," *American Sociological Review,* 48/2 (1983): 147-160.
21. Delmas and Toffel (2008), op. cit.
22. Gibson, op. cit.
23. See <www.ftc.gov>, accessed May 7, 2009.
24. Kate Galbraith, "FTC Sends Stern Warning on 'Biodegradable' Marketing Claims," *Green: A Blog About Energy and the Environment, The New York Times*, June 11, 2009.
25. David Baron, *Business and its Environment, 6th Edition* (Upper Saddle River, New Jersey: Pearson Education, Inc., 2009).
26. See <www.boycottgreenmountain.com/> accessed May 7, 2011.
27. Jacob Vos, "Actions Speak Louder than Words: Greenwashing in Corporate America," *Notre Dame Journal of Law, Ethics and Public Policy*, 23 (2009): 673-697.
28. Delmas and Toffel (2008), op. cit.
29. Felix Oberholzer-Gee, Forest Reinhardt and Elizabeth Raabe. "UBS and Climate Change –

Warming Up to Global Action?" Harvard Business School Case (2007).

30. Magali Delmas and Vered Doctori Blass, "Measuring Corporate Environmental Performance: theTrade-offs of Sustainability Ratings," *Business Strategy and the Environment*, 19/4 (2010): 245-260.
31. Martin B. Meznar and Douglas Nigh, "Buffer or Bridge? Environmental and Organizational Determinants of Public Affairs Activities in American Firms," *Academy of Management Journal*, 38/4 (1995): 975-996.
32. James Wimbush, Jon Shepard, and Steven Markham, "An Empirical Examination of the Relationship Between Ethical Climate and Ethical Behavior from Multiple Levels of Analysis," *Journal of Business Ethics*, 16/16 (1997): 1705-1716.
33. Daniel Brass, Kenneth Butterfield and Bruce Skaggs, "Relationships and Unethical Behavior: A Social Network Perspective," *The Academy of Management Review,* 23/1 (1998): 14-31.
34. LaRue Hosmer, "The Institutionalization of Unethical Behavior," *Journal of Business Ethics*, 6/6 (1987): 439-447.
35. Ibid.
36. Baron, op. cit.
37. John Cullen, Praveen Parboteeah, and Bart Victor, "The Effects of Ethical Climates on Organizational Commitment: A Two-Study Analysis," *Journal of Business Ethics,* 46/2 (2003): 127-141.
38. Cullen et al., op. cit.
39. For a review of the literature, see Kelly Martin and John Cullen, "Continuities and Extensions of Ethical Climate Theory: A Meta-Analytic Review," *Journal of Business Ethics*, 69/2 (2006): 175-194.
40. Richard P. Rumelt, "Inertia and Transformation" in Cynthia Montgomery, ed., *Resource*s *in an Evolutionary Perspective: Towards a Synthesis of Evolutionary and Resource-Based Approaches to Strategy* (Norwell, MA: Kluwer Academic Publishers, 1995), p. 101-132.
41. Michael Hannan and John Freeman, "Structural Inertia and Organizational Change," *American Sociological Review,* 49/2 (1984): 149-164.
42. John Maxwell, Sandra Rothenberg, Forrest Briscoe, and Alfred Marcus, "Green Schemes:

Corporate Environmental Strategies and Their Implementation," *California Management Review*, (2007) 39/ 3: 118–134.

43. James Herron, "BP CEO Shies Away from Radical Change," WSJ.com, October 19, 2010, available at <blogs.wsj.com/source/2010/10/19/bp-ceo-shies-away-from-radical-change/>, accessed May 7, 2011.
44. Gabriel Szulanski. "Exploring Internal Stickiness: Impediments to the Transfer of Best Practice Within the Firm," *Strategic Management Journal,* 17/1 (1996): 27-43.
45. Morten Hansen, "The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge across Organization Subunits," *Administrative Science Quarterly,* 44/1 (1999): 82-111.
46. See, for example, Daniel Kahneman, "Maps of Bounded Rationality: Psychology for Behavioral Economics," *The American Economic Review,* 93/5 (2003): 1449-1475.
47. TerraChoice Group, Inc., op. cit.
48. See, for example, Daniel Kahneman and Dan Lovallo, "Timid Choices and Bold Forecasts: A Cognitive Perspective on Risk Taking," *Management Science,* 39/1 (1993): 17-31;
49. Colin Camerer. "Bounded Rationality in Individual Decision Making," *Experimental Economics*, 1/2 (1998): 163-183.
50. Kahneman and Lovallo, op. cit.
51. George Ainslie and Nick Haslam, "Hyperbolic Discounting*"* in George Loewenstein and Jon Elster, eds., *Choice Over Time,* (New York, NY: Russell Sage Foundation, 1992); George Marios Angeletos, David Laibson, Andrea Repetto, Jeremy Tobacman, and Stephen Weinberg, "The Hyperbolic Consumption Model: Calibration, Simulation, and Empirical Evaluation," *The Journal of Economic Perspectives,* 15/3 (2001): 47-68.
52. Kahneman and Lovallo, op. cit.
53. Shelley Taylor and Jonathon Brown, "Illusion and Well-Being: A Social Psychological Perspective on Mental Health, "*Psychological Bulletin,* 103/2 (March 1988): 193-210.
54. Arnold Cooper, Carolyn Woo and William Dunkelberg, "Entrepreneurs' Perceived Chances for Success," *Journal of Business Venturing,* 3/2 (1988): 97-108.
55. Pratima Bansal and Iaian Clelland, "Talking Trash: Legitimacy, Impression Management, and Unsystematic Risk in the Context of the Natural Environment," *The Academy of*

Management Journal, 47/1 (2004): 93-103.

56. Ibid; Magali Delmas, Maria Montes-Sancho. and Jay Shimshack, "Mandatory Information Disclosure Policy: Evidence from the Electric Utility Industry," *Economic Inquiry,* 48/2 (2010): 483-492.
57. Archon Fung and Dara O'Rourke, "Reinventing Environmental Regulation from the Grassroots Up: Explaining and Expanding the Success of the Toxics Release Inventory," *Environmental Management,* 25/22 (2000): 115-27.
58. Geoffrey Frost, "The Introduction of Mandatory Environmental Reporting Guidelines: Australian Evidence," *Abacus*, 43/2 (2007): 190-216.
59. Magali Delmas and Laura Grant, "Eco-labeling Strategies and Price-Premium: The Wine Industry Puzzle," forthcoming in *Business & Society*.
60. See <www.greenbiz.com/news/2011/07/08/sc-johnson-settles-lawsuits-over-greenwashing-greenlist-logo>, accessed May 7, 2011.
61. Magali Delmas and Ann Terlaak, "A Framework for Analyzing Environmental Voluntary Agreements" *California Management Review*. 43/3 (2001): *44-63.*
62. Bansal and Clelland, op. cit.
63. Jedd Ferris, "Yvon Chouinard: Patagonia's Reluctant Businessman," *Blue Ridge Outdoors Magazine*, May 2010.
64. Ogilvyearth, op. cit.
65. Ibid.
66. "U.K. Launches Anti-Greenwashing Guide," Environmental Leader: Environmental & Energy Management News, February 2, 2011.
67. Andrew Winston, "A New Tool for Avoiding Greenwash," Sustainable Life Media, available at <www.sustainablelifemedia.com/news_and_views/articles/new-tool-avoiding-greenwash>, accessed May 7, 2011.
68. Ibid.