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“Eco-Friendly” Marketing: Beyond the Label

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The science is unequivocal: every ecosystem in the world is in decline. Without significant intervention, the world’s inhabitants of almost 7.3 billion are in peril. In light of this imminent threat and as a response to market pressures, public outcry, and changing national and international policies, businesses are seeking to rebrand their products by adopting a more environmentally-friendly approach. From various certification processes to other forms of green marketing, eco-labeling has been trending and consumer engagement rising. But without a thorough analysis of a particular product, the consumer’s belief that he/she is helping to contribute to a solution, may be misplaced.

INTRODUCTION

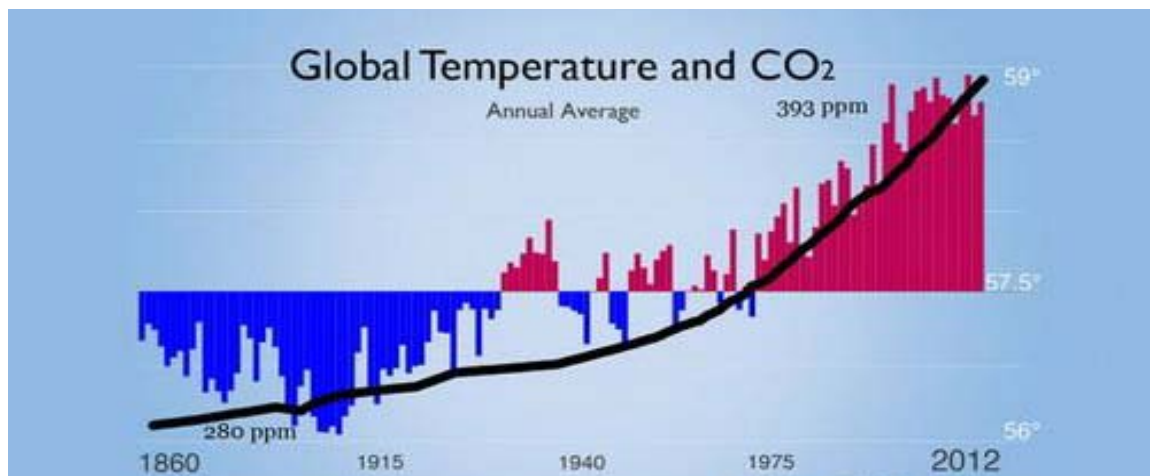
The world’s population, through increased channels of communication and access to scientific research and reports, regard climate change as a major threat to sustained life forms as well as to their respective countries (PewResearchCenter, 2013-2014). Because of this evolving perspective, environmentally-friendly product stamps – or “eco-labeling” – has emerged as a significant market driver in the global marketplace. Marks, labels, and logos are increasingly being used by brand owners to advertise their “green” credentials and hence, to appeal to an emerging global consumer class. An eco-label purports to offer the consumer a guarantee that a certain product has met relevant environmental standards set by non-governmental organizations, government agencies, and industry associations. Capturing a greater market share in this manner appears to be mutually beneficial to vendor and consumer alike. The product professedly does not pose a hazard to further environmental degradation, easing the conscience of the buyer while increasing sellers’ profits. But questions as to the efficacy and validity of such labeling practices remain. Who monitors the certification processes? Are the results independently substantiated? Stamps often denote compliance with particular guidelines which measure eco-friendliness, but those metrics often pose varying thresholds in different regions of the world. Many assurances processes also fail to reveal the transportation methods and routes used to deliver the desired good to the consumer nor disclose the conditions under which the product was manufactured in whole or in part. Finally, product disposal methods (i.e., cradle to grave) are rarely, if ever, communicated to the consumer.

THE EVOLUTION OF A POST-INDUSTRIALIZED MARKET

The Industrial Revolution ushered into the 19th and 20th centuries in both Europe and America a shift from predominantly agrarian, rural societies to industrial, urban cities. Factories and textile mills rapidly grew in number and size, ultimately giving way to the assembly line. This heightened ability to mass produce consumer goods was largely the result of the use of coal as a predominant energy source (Montagna, 1981). An organic chemical, coal is based on carbon which itself is linked to atoms of hydrogen and oxygen joined by chemical bonds. When ignited, coal generates energy, but emits carbon dioxide (CO₂) into the atmosphere—much more so than gasoline and natural gas (U.S. Energy Information Administration). By the early 20th century, coal was supplemented by fossil fuels to power the automobile, cook, and heat buildings and homes. Additionally, charcoal (a biofuel produced from wood) was used to smelt iron ore to produce rails for mass transportation of both people and goods. Its use also emits high amounts of CO₂ into the atmosphere (Johnson, 2009). Wood was also used as a source of energy to power the steam engines, build homes and factories, and make furniture—resulting in massive deforestation and lessening a natural carbon sequestration system. New pesticides and herbicides were introduced to increase crop yields, leaching toxins into ground waters and aquifers.

The CO₂ emissions from all of these sources of energy combined with methane gas (a common product of decaying waste in landfills), sulfur dioxide, water vapor, and nitrous oxide constitute the basic components of greenhouse gases (U.S. Geological Survey, 2011). While industrialization ostensibly increased the volume and variety of manufactured goods, improved the standard of living for many, and produced new forms of efficient, mass transportation, it also resulted in unforeseen amalgamations of toxins and waste products which began to dominate the atmosphere, foul water sources, and compromise ecosystems. It is predominantly the burning of these fossil fuels since the Industrial Revolution began that have added CO₂ and other heat-trapping gases into the atmosphere which have warmed the Earth's surface, causing temperatures to rise and climate patterns to change drastically (*see* Figure 1).

FIGURE 1



The insidious consequences of mass industrialization were more formally addressed after World War II. Given the world's expanding populations and the proliferation of automobiles, textiles, and other consumer goods, focus shifted to government regulation as manifested by the passage of a sequence of laws in the U.S., the creation of agencies to enforce these laws, and the rendering of judicial decisions to decide the powers and define the parameters of environmental legislation and rule-making (Lane, 2013). As the pervasiveness of pollution transcends territorial boundaries, concern over environmental degradation soon ascended to the world stage. The most notable undertaking to address this universal

threat culminated in the negotiation of the Kyoto Protocol, a global agreement made under the United Nations Framework Convention on Climate Change (UNFCCC). Under this treaty, member-nations have committed to reducing their emissions of GHGs, or engage in emissions trading if they maintain or increase emissions of these gases.

This confluence of events over the past 50 years has not only reexamined the need for alternate clean energy sources, minimal impact manufacturing processes, and the cessation or neutralization of toxic agricultural practices, but has concomitantly heightened consumer awareness of the harmful nature of decades of unchecked consumerism. Greater incentivization has been afforded to the world citizen to purchase goods devoid of harmful toxins, use more efficient vehicles and appliances, consume foodstuffs grown without chemical applications, engage in less wasteful construction and energy usage, and advocate clean forms of new energy technology. Thus, with the creation of a new, Post-Industrial Revolution world market, the products, energy sources, and services of a half century ago are undergoing a metamorphosis largely dictated by government regulation, global collective action, and the influence of a better educated consumer class who understands the changing planetary characteristics and realizes the possible dangers of conducting “business as usual.” The growing global consumer class is gaining momentum throughout the world and has the power to address these problems through consumer choice.

“GREEN MARKETING” DEFINED

In an attempt to address the science of climate change and to place the consumer squarely in at least a perceived position of being a “part of the solution,” one must discern the efficacy and genuineness of “green marketing.” Green marketing has been considered an extension of “ecological marketing” a concept first coined by the American Marketing Association (AMA) in 1975. While there is no universally-adopted, singular definition, Polonsky (1994, p.2) asserts that: *“Green or environmental marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment.”*

More recently, the AMA has provided multiple definitions for green marketing according to the predominant context involved. The retailing definition provides that green marketing simply refers to the *“marketing of products that are presumed to be environmentally safe.”* From a social marketing perspective, green marketing pertains to the *“development and marketing of products designed to minimize negative effects on the physical environment or to improve its quality.”* And lastly in reference to environmental science, this brand of marketing involves the *“efforts by organizations to produce, promote, package, and reclaim products in a manner that is sensitive or responsive to ecological concerns”* (<https://www.ama.org/resources/pages/dictionary.aspx?dLetter=G>).

For purposes of this discourse, the authors have adopted the following all-inclusive definition: *Green or eco-friendly marketing refers to organizational efforts to develop, package, and promote products and services in a manner that attempts to minimize harmful effects to the physical environment.*

GROWING GREEN MARKETS: SURVEY DATA

Green market segments in the United States are rapidly expanding. Growth rates of eco-friendly segments are outpacing their conventional counterparts in every industry where data has been collected (*Small Business Sustainability Report*, 2013). Findings from the *Small Business Sustainability Report* (2013) state that:

- Between 2001-2011, the U.S. organic food category grew at a rate of 238% compared to a 33% growth indicator for the overall food market;
- From 2003-2011, the organic non-food segment grew 400% while the equivalent overall non-food market grew 33%;
- From 2006-2011, the green building segment grew 1,700% while the overall construction market contracted by 17%;

- Between 2001-2010, assets in socially-conscious investment portfolios increased by an approximate rate of 32% while assets in general investments grew by 27%;
- From 2002-2011, the use of renewable energy increased by an overwhelming 456% while energy generated from non-renewables decreased by 3.2%; unit sales of hybrid vehicles grew 646% from 36,000 to 269,000 while sales of vehicles overall dropped by 15%; and imports of Fair Trade certified foods grew 1,442% from \$9.8 million pounds to \$152 million pounds while overall food imports declined by 38%; and
- Since 2001, the number of U.S green industry associations has doubled since 2001 and U.S. green certifications have increased 180%.

Ostensibly, green segments of industries, from organic foods to hybrid vehicles, continue to systematically gain a larger share of the U.S.–if not the world–economy (*see* Table 1).

TABLE 1
2001-2011 PROFITABILITY OF GREEN PRODUCTS AND SERVICES

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
ORGANIC FOOD (U.S. sales in billions)											
	\$7.4	\$8.6	\$10.4	\$12.0	\$14.2	\$17.2	\$20.4	\$23.6	\$24.8	\$26.7	\$29.2
<i>Organic Food as percentage of total U.S. food sales</i>											
	1.4%	1.6%	1.9%	2.2%	2.5%	2.9%	3.2%	3.6%	3.7%	4.0%	4.2%
ORGANIC NON-FOOD (U.S. sales in billions)[†]											
		0.4	0.4	0.6	0.7	0.9	1.2	1.6	1.8	2.0	2.2
<i>Organic Non-Food as percentage of total U.S. non-food sales (corresponding categories only)</i>											
			0.1%	0.2%	0.2%	0.3%	0.3%	0.4%	0.5%	0.5%	0.6%
GREEN BUILDING (non-residential green starts, in billions)											
					\$3			\$25		\$47	\$54
<i>Green Buildings as percentage of total U.S. new construction starts</i>											
					1.74%			11.79%		30.72%	38.03%
SOCIALLY RESPONSIBLE INVESTING (U.S. assets under management, in trillions)											
	\$2.3		\$2.2		\$2.3		\$2.7			\$3.1	
<i>Socially Responsible Investing percentage of total U.S. assets under management</i>											
	11.7%		11.3%		9.4%		10.8%			12.2%	
RENEWABLE ENERGY (U.S. consumption, excluding hydro and nuclear, in quadrillion Btu's)											
	553	648	754	870	986	1,234	1,580	2,214	2,603	3,141	3,600
<i>Renewable energy as percentage of total U.S. energy consumption</i>											
	.58%	.66%	.77%	.87%	.98%	1.24%	1.56%	2.23%	2.76%	3.21%	3.67%
HYBRID VEHICLE SALES (U.S. unit sales in hundreds of thousands)											
	20	36	48	84	210	253	352	312	290	274	269
<i>Hybrid vehicle sales as percentage of total U.S. auto sales</i>											
	0.1%	0.2%	0.3%	0.6%	1.4%	1.8%	2.5%	2.4%	2.8%	2.4%	2.1%
FAIR TRADE FOOD (U.S. sales in millions of pounds)*											
		9.8	19.5	33.9	46.1	67.2	69.4	93.0	112.4	111.4	151.9
<i>Fair Trade Food as percentage of total U.S. food sales in pounds</i>											

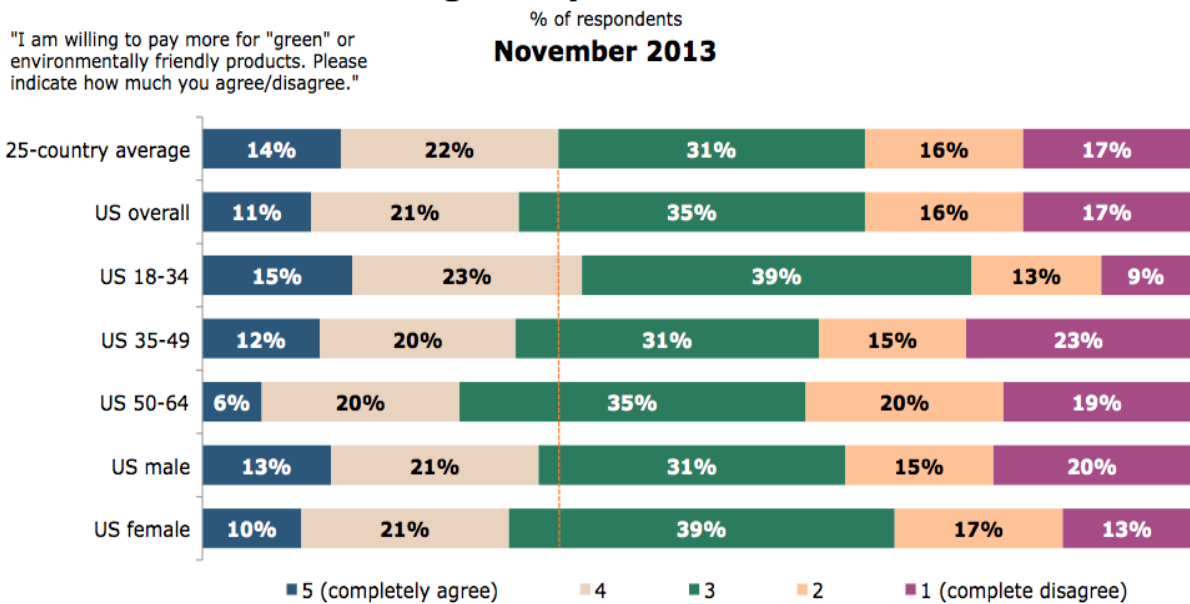
It is necessary to distinguish the eco-branding of products and services from the overall environmentally-favorable characterization of a company or organization making such product or rendering such service. With respect to the latter, a 2011 Nielsen study found that North American consumers were almost twice as likely to purchase products from companies they considered to be socially-conscious than to pay extra for the actual products and services themselves (64% vs. 35%) (*Nielsen Global Survey of Corporate Citizenship*, 2011). How the green product/service is marketed also has a significant bearing on consumer decision-making. “Socially-conscious consumers are less skeptical

of advertising in all forms than the global online average. They are most likely to trust recommendations from people they know (95% vs. the 92% average), followed by consumer opinions posted online (76% vs. 70%) and branded websites (65% vs. 58%). On a global scale, this trend extends to consumers in Latin America (77% vs. 49%), the Middle East and Africa (75% vs. 53%), Asia Pacific (70% vs. 55%), and Europe (55% vs. 32%)” (*Nielsen Global Survey of Corporate Citizenship*, 2011, p. 26).

In 2013, a survey conducted by the Ipsos Open Thinking Exchange (OTX) indicated that one-third of Americans agreed that they would pay more for green or environmentally-friendly products while over 50% of consumers worldwide stated they would pay an extra premium for such goods and services (see Table 2, showing responses of Americans grouped by gender and age compared to a similarly-derived average of those respondents from an amalgamation of 25 countries). Of the global consumers interviewed, more respondents valued a brand’s environmental efforts than those who would pay more for environmental products in every country surveyed, with one exception: more than half (52%) of those respondents in China agreed they care more about environmental brand claims while six in ten (58%) agreed they would pay more.

TABLE 2
AMERICAN CONSUMER GROUPS VS. 25-COUNTRY AVERAGE

Americans Willing to Pay More for "Green" Products



In 2013, Cone Communications released a survey partly explaining why more Americans are not buying even more environmentally-friendly products. The salient findings from this study indicate that 48% of Americans are overwhelmed by the number of brands touting various environmental messages. This finding is more comprehensible in light that the number of products bearing environmental labels or stamps increased by a multiple of approximately 15 between 2004 and 2009. Other findings from this survey show that:

- 46% of the respondents said they trust brands to tell them the truth in those environmental messages and further doubt the accuracy of those claims; and
- Consumers are generally confused about the messages and 71% wish that companies would present a clearer message about the environmental terms used as only about one-quarter could correctly identify the meaning of a product advertised as “green” or “environmentally friendly.”

Since many consumers are generally skeptical of environmental claims, attracting a larger consumer base who would pay more for green products would appear to be a formidable challenge. However, a 2013 Shelton Group study found that green customers – estimated to comprise 24% of all Americans – were often more affluent, better educated, and brand-loyal consumers. Additionally, a 2013 *Nielsen Global Survey on Corporate Social Responsibility* indicates that 50% of global consumers were willing to pay a premium for goods and services produced by companies that have implemented socially-conscious programs (which would include an environmental element) and 43% claimed they have actually have paid more.

Survey polls have consistently reported that green businesses continue to enjoy positive public sentiment, supportive government policies, and increased revenues. For example, a 2012 Regeneration Consumer Study surveyed over 6000 consumers emanating from 6 countries and reported that consumers maintain a strong belief in overall corporate social responsibility. “Of the consumers interviewed, 2/3 recognize the need to purchase products that are good for the environment and society” (<http://formzapper.com/2012/11/consumers-prefer-buying-from-green-companies/>). And, as early as 2009, even in the middle of a downturn economy, *Time Magazine* found that:

- Approximately 50% of Americans polled valued environmental protection over economic growth;
- More than 60% had purchased organic produce within the previous year; and
- About 40% consciously made purchases based upon the social or political values of the producing company (<https://www.franchisehelp.com/industry-reports/green-industry-report/>).

Clearly, considerable evidence indicates that consumers care more now than ever about green industries and have the resources to locate the products that meet their specific preferences. Hence the eco-labeling industry possesses the potential to disseminate information about the environmental features of a product or service more credibly, transparently, and accurately in order to secure an even larger share of the market (Ambec & Lanoie, 2008).

GREEN MARKETING AND THE BOTTOM LINE

As there is arguably a direct correlation between green growing/marketing practices and the generation of profits, it has only been recently that the concept of sustainability has captured the attention of many of the world’s leading businesses. A shift in focus to a *triple bottom line* approach (i.e., people, planet, profits) has been generally recognized as the key to an organization’s future growth. Adopting a three-faceted business paradigm renders many benefits, including more transparent networking with stakeholders, brand enhancement, and increased trust with the entity’s customer base. But does that necessarily translate into an undeniable economic advantage? Are sustainable practices sufficiently quantifiable to assess whether a tangible effect has been achieved with respect to a company’s bottom line?

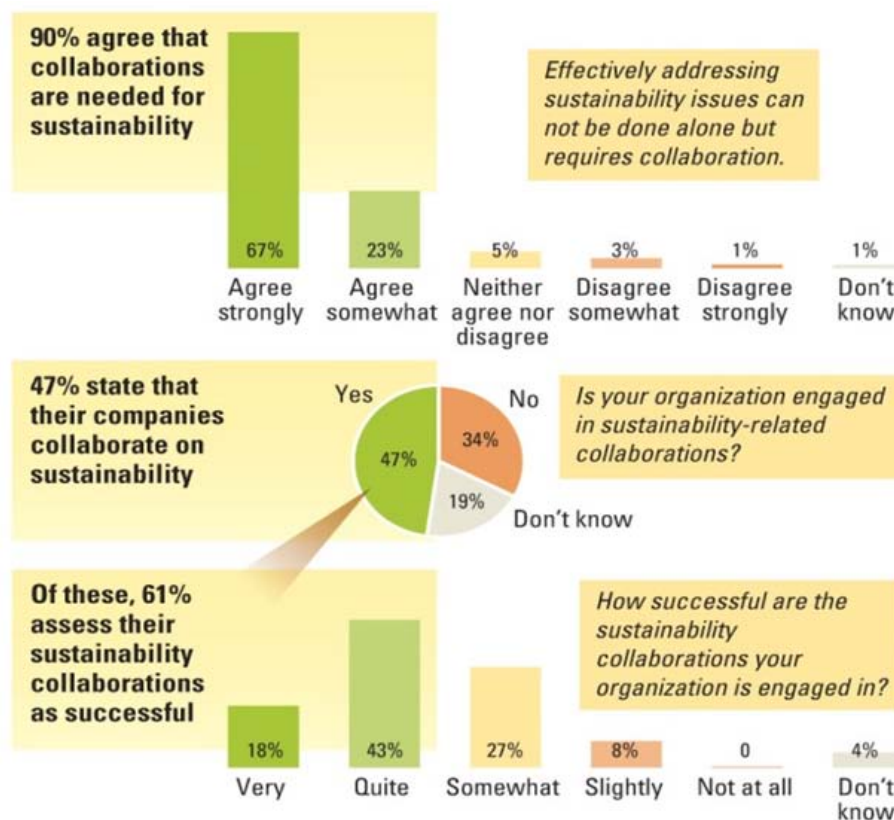
There is verifiable data that profiting from sustainable and sound environmental practices is achievable. In 2013, *MIT Sloan Management Review* (MIT SMR) released a study showing that there has been a steady trend toward profit-making for companies adopting greener practices and that sustainability measures have evolved into key marketing drivers. The study revealed that: “Overall, the portion of respondents reporting profit from sustainability went up 23% to 37% of the total” and that “seventy-five percent of those who changed their business model because of sustainability say their organizations either break even or show a profit from sustainability activities” (Kiron, et al, 2013, p. 69).

As early as 2009, research affecting *Newsweek’s* Green Rankings indicated that despite a weak economy and political stagnation in the U.S. Congress, “Top-ranked companies are approaching green projects with increasing tenacity... Corporate sustainability, it seems, is here for the long haul — it makes sense not just for the sake of the planet, but for business” (<http://www.newsweek.com/newsweek-green-rankings-2011-68293>). Disclosure of quantifiable GHG emissions has now made it possible for investors to incorporate environmental impact data directly into their investment strategies “[a]nd early returns on

the data show that [a] greener investment is [a] smarter investment.” Most recently, *Newsweek’s* 2014 Green Rankings show that “an investment of \$100 equally spread across U.S. companies that performed better than average on greenhouse gas emissions would have returned \$220 dollars over the past five years, versus \$160 by investing in the S&P 500. Investing into these green companies also led to 93% fewer emissions than an equal investment in the S&P 500” (Heaps, 2014). With the rise of global markets and pressure from investor groups, environmentally-sound products and services are increasing in numbers, producing a greater likelihood that investors and consumers will more readily consider green claims before committing to a purchase or an investment.

To properly respond to this growing demand for greener products, companies are realizing that business collaborations are warranted. As the physical world becomes more unpredictable, companies understand that sustained success mandates a network of interdependent entities. Current data indicate that an increasing number of companies are turning to joint endeavors and partnerships with vendors, suppliers, NGOs, governments, industry alliances, and even competitors to face this new, and rapidly growing, complex challenge. MIT SMR’s *2014 Sustainability Report* reveals how collaborations appear to generate profits from their use of more sustainable methods in making goods and services (see Figure 2).

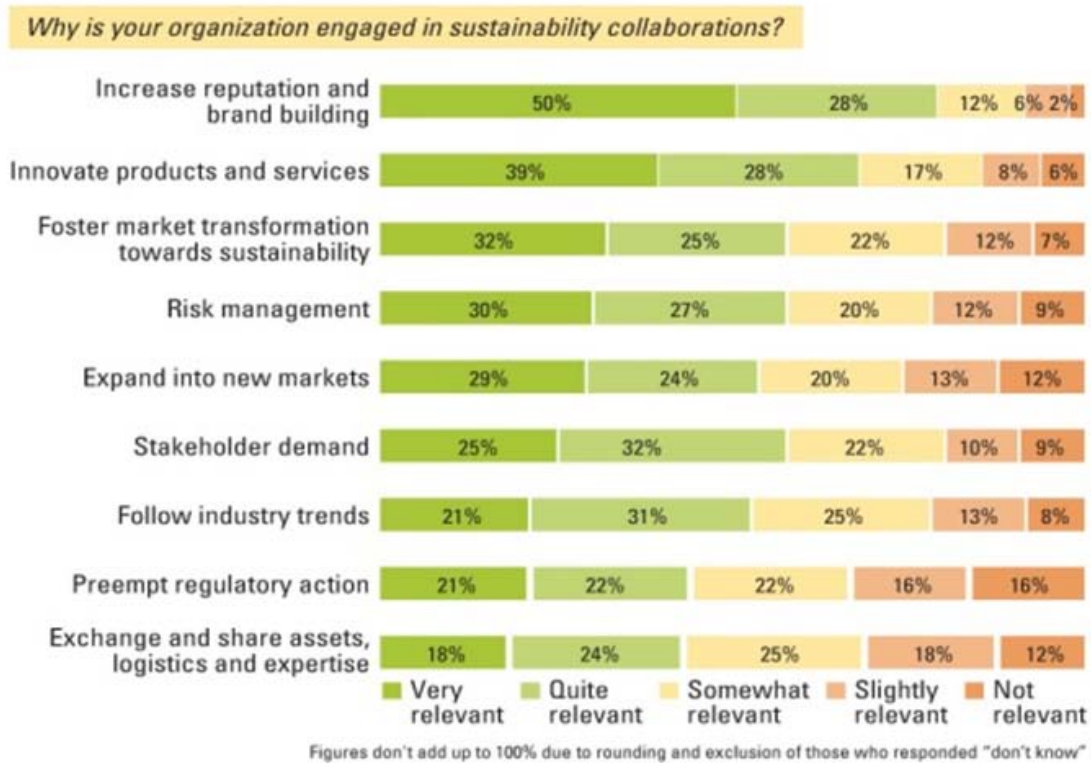
**FIGURE 2
COLLABORATIONS AND SUSTAINABILITY**



From this research, brand and company reputation have proven to be the strongest drivers for the creation of sustainable partnerships. In light of not only singular, but collective efforts of companies and organizations to implement more sustainable means in product-making, the need to monitor and safeguard against the spurious claims of eco-friendly benefits are even more necessary to protect consumers.

Figure 3 below shows that 78% of surveyed executives and managers rated sustainability partnerships as very or quite relevant.

FIGURE 3
RELEVANCE OF SUSTAINABILITY COLLABORATIONS



GREENWASHING

“Greenwashing” pertains to an act by a company or other organization designed to influence customers’ perceptions about that entity and its products with respect to its environmental practices (*Greenwashing Index*). Greenwashing occurs when the reporting entity falsely promotes or embellishes its good’s eco-friendly attributes rather than implements policies to reduce the product’s environmental impact. Underwriters Laboratories has grouped these claims into categories which it refers to as the “Seven Sins of Greenwashing,” to-wit:

- The entire product is referred to as “green” based upon a narrowly defined attribute;
- The environmental claim is unsubstantiated;
- The claim is vague or ambiguous (e.g., “all natural”);
- The marketer uses words or images to falsely suggest third-party certification;
- Irrelevant claims are employed (e.g., “CFC-free” – a substance already banned by law);
- The use of descriptive words that profess a green attribute when the overall product is commonly regarded as environmentally-*unfriendly*; and
- The unauthorized use of stamps, symbols, and labels.

Greenwashing can also result from essential information that is *not* conveyed to the consumer. For example, the use of palm oil (Chachavalpongpun, 2013) as a new biofuel inherently suggests sound environmental practices. In reality, however, this product is generated through certain processes which

have resulted in the destruction of large segments of rainforests, releasing climate-destroying CO₂ emissions into the atmosphere. In the same vein, a company's *intentional* falsification of information presents yet another obstacle for the consumer to make informed purchases. An example of this was demonstrated in 2010 when the U.S. Department of Energy (DOE) pursued appliance manufacturer LG Electronics U.S.A., Inc. for submitting erroneous data to gain the authorization to use *Energy Star* certification on many of its refrigerator models when, instead, its product actually consumed more energy than reported.

The greenwashing paradigm has further expanded into the clean technology sector, where B-to-C (Business to Customer) claims have evolved into B-to-B (Business to Business) false advertising cases. Significant greenwashing cases have surfaced recently involving clean tech companies and green brand owners concerning claims of energy-efficient equipment and renewable energy generation. Several cases have involved "allegations of false wind farm resource estimates, faulty cogeneration power units, counterfeit solar panels, and trademark infringement in connection with LED lighting, environmental compliance software, and wind and solar manufacturing" (Lane, 2013).

With the rising use of eco-branding, consumers must be wary and better informed in their purchasing decisions—not just about the asserted eco-friendly attributes of an item, but in regard to the entire production process itself. Consumers must be given full transparency with respect to every item offered in the marketplace (Solomon, 2015). As more purchasing power has been relegated to the tech-savvy millennial, and greater attention afforded to the ramifications of climate change, falsified claims may, with proper government oversight and regulation, quickly be discovered through one Internet search.

MONITORING AND REGULATING THE ECO-LABELING MARKET

U.S. Federal Trade Commission (FTC) Green Guides

In the U.S., green marketing has necessitated its own specific rules and regulations especially in light of the proliferation of eco-labels and certification programs. Manufacturers, committed to conveying the "eco-friendly" nature of their products, initially sought to appeal to their environmentally-conscious consumer base and improve their public image by characterizing products and/or its packaging with often unsubstantiated claims and unqualified statements. An influx of products stamped with green buzzwords such as "organic" or "sustainably produced" saturated the market. Rebranding and advertising efforts of major corporations focused on portraying businesses as "friends of the environment." Prominent, industry-specific organizations have helped define their own standards to decrease deceptive claims. The FTC responded to the need for more stringent regulation of environmental marketing by issuing its *Guides for the Use of Environmental Marketing Claims (Green Guides)*. The FTC Green Guides help marketers avoid claims that are considered unfair or deceptive as defined under Section 5 of the Federal Trade Commission Act (FTCA). This act addresses the guiding principles which apply to all environmental claims—including how consumers are likely to perceive benefit claims and whether appropriate methods were employed to qualify a particular claim. The FTC advises against unqualified environmental benefit claims as it "is unlikely that marketers can substantiate all reasonable interpretations of these claims" and further cautions marketers to avoid overstating environmental attributes, especially where the benefit is negligible. In Section 260.6, *Certifications and Seals of Approval*, the FTC equates eco-labels and certifiers to endorsements and states that they are accountable to the criteria outlined in the FTC's Endorsement Guides. Other revisions caution marketers:

- "[N]ot to make an unqualified degradable claim for a solid waste product unless they can prove that the entire product or package will completely break down and return to nature within one year after customary disposal;
- [T]hat items destined for landfills, incinerators, or recycling facilities will not degrade within a year, so marketers should not make unqualified degradable claims for these items; [and]
- [T]o clarify guidance on compostable, ozone, recyclable, recycled content, and source reduction claims.

While the Guides provide some needed structure and guidance for manufacturers, marketers, and service providers to properly define the attributes of their products, the FTC lacks the resources necessary to uniformly monitor and enforce the prescriptions. Additionally, the Guides fail to address key green marketing terms such as “sustainable,” “natural,” and “organic, and instead defer such definitional responsibilities to national programs. While the Green Guides are not binding on either the agency or the public, the FTC does have the authority to enforce them. For example, several companies that have made unsubstantiated claims of general environmental benefits stating that certain products were either “biodegradable,” (N. Am. Plastics Corp., 118 F.T.C. 632, 633-37, 1994), “ozone-safe,” (116 F.T.C.1169, 1169-74, 1993) or “safe for the environment” (115 F.T.C. 1, 1-6, 1992), have been rigorously and successfully challenged by the agency. As the green market becomes more lucrative, FTC enforcement actions are rising, particularly where environmental benefits are far-reaching and vague (ECM Biofilms, Inc., *decided* 6 February 2015).

U.S. Federal Deceptive Practices Act

Section 5 of the Federal Trade Commission Act states that “unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful” (15 U.S.C. §45(a)). The terms “unfair” and “deceptive” are dissimilar, but occasionally overlap in false advertising claims (Beebe, et al., 2011). *Unfair* acts are defined to be any act(s) that are “likely to cause substantial injury to consumers which are not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or competition” (15 U.S.C. §45(n)). In the case of a proliferating green marketing culture, if the company’s false or misleading label or claim affects the consumer’s conduct or decision to purchase the product, litigation for violation under this act is feasible.

U.S. Environmental Protection Agency (EPA) and Executive Orders

Federal agencies are directed by federal laws, regulations, and executive orders to make purchasing decisions with due consideration given to the environment. Suppliers must meet certain stringent environmentally-friendly standards to participate in the government’s procurement process and agencies must set aside portions of their budgets to enhance more sustainable purchasing practices. For example, the EPA’s Environmentally Preferable Purchasing Program was created in 1993 to help federal officials meet these requirements and in 2009, President Barack Obama issued Executive Order 13514 known as “Federal Leadership in Environmental Energy and Economic Performance” which orders federal agencies to incorporate sustainable practices in its procurement process, increases energy efficiency in its buildings, and ensures that “95 percent of new contract actions including task and delivery orders, for products and services with the exception of acquisition of weapon systems, are energy-efficient (*Energy Star* or *Federal Energy Management Program* (FEMP) designated), water efficient, bio-based, environmentally preferable (e.g., *Electronic Product Environmental Assessment Tool* (EPEAT) certified).”

GoodGuide

Although eco-labels offer guidance for consumers desiring to purchase an environmentally-preferred product, navigating the industry to distinguish credible from spurious claims remains a challenge. In response to this dilemma, the private sector—including academicians, environmental scientists, and NGOs—has also weighed in to attempt to properly evaluate a product’s environmental claims. While many benefit claims are not inherently false or exaggerated *per se*, they often fail to account for in their assessments a particular product’s entire supply chain and life cycle—from the extraction and transporting of resources to ultimate disposal (i.e., “cradle to grave”). Dr. Dara O’Rourke, responded to these challenges by founding *GoodGuide* in 2007. GoodGuide is an online tool and recognized as an authoritative resource that enables consumers to search a comprehensive database for information on the environmental as well as health and social performance of products. GoodGuide focuses on rating products that comprise the top 80% of sales in the core categories of personal care, household chemicals,

and food products. Additionally, ratings have been developed for pet food, paper products, lighting products, home appliances, cell phones, cars, and a plethora of innovative products professing, and specifically marketing, an environmental benefit.

Technical and scientific experts use a set of indicators in multiple categories to collect and analyze extensive data in order to determine scores based upon a 0-10 rating system. Different indicators are used depending on the assessment and product categories. Upon selecting a product category, consumers are provided with the list of indicators and criteria needed to develop a particular product's rating. The environment score is derived from data collected measuring the product or company's performance in a broad class of indicators including environmental management, transparency of product information and of the production process, environment impact, and the specific environment attributes of a good or service. Participation is voluntary and enforcement measures are lacking; thus, unless independently verified, this is a self-regulating tool for the manufacturer, but does provide the discerning consumer with additional product information to make a more educated decision.

International Organization for Standardization (ISO)

As discussed *infra*, governments have stepped in to provide parameters to eco-labeling. These guidelines offer the public protection against false claims, improve product credibility in the eyes of the consumer and industrial sector, ameliorate the need for high monitoring, allow for the incorporation of international standards, and improve accountability and technical expertise. Within the private sector, the International Organization for Standardization (ISO) has formulated standards to guide worldwide regulatory efforts in environmental management. The advantages of private sector programs avoid political policy shifts and uncertainties, command even more stringent practices, and put pressure on international markets to abide by the same standards to promote better environmental practices, truth in advertising, and free trade. Specifically, the ISO 14020 series has developed important criteria to characterize the validity of an organization's environmental claim; through specific criteria, an eco-label is classified according to the credibility, transparency, and rigor needed to substantiate its particular environmental claim (International Institute for Sustainable Development, 2012). These labeling schemes have been categorized as belonging to one or more of three different types and are further described as follows:

**TABLE 3
ISO LABELING DESCRIPTIONS**

Standard	Description	Application
ISO 14020	Environmental Labeling: General Principles	Sets out nine general principles that apply not only to labeling schemes but to all environmental claims, designed to promote accurate, verifiable and relevant information
ISO 14021	Environmental Labels and Declarations: Self-Declaration Environmental Claims, Terms and Definitions	Sets out requirements for Type II labels, i.e. environmental claims made for goods and services by the producer
ISO 14022	Environmental Labels and Declarations: Self-Declaration Environmental Claims, Symbols	Promotes the standardization of terms and symbols used in environmental claims, e.g. 'recycled content'
ISO 14023	Environmental Labels and Declarations: Self-Declaration Environmental Claims, Testing and Verification	(Currently under review)
ISO 14024	Environmental Labels and Declarations: Environmental Labeling Type I, Guiding Principles and Procedures	Provides guidance on developing programs that verify the environmental attributes of a product via a seal of approval

- *Type I is a multi-attribute label developed by a third party;*
- *Type II is a single-attribute label developed by the producer;*
- *Type III is an eco-label whose awarding is based on a full life-cycle assessment.*

These standards—particularly ISO 1402—establish uniform trading practices in a global marketplace and provide specificity and a general consensus to typical eco-branding terms. ISO 1400 Compliance is a voluntary process that has the potential to reduce government oversight as such achievement carries credibility worldwide. ISO Certification is additionally offered and presents to the applicant the means to reduce waste, improve production efficiency, decrease regulation enforcement risk and liability, improve the health and safety of employees and other stakeholders, offer marketing transparency to customers, and provide a competitive advantage (<http://www.vanguardenvl.com/850iso.htm>).

There is some harmonization between the Revised FTC Green Guides (2012) and the ISO 14020 Series. More specifically, in 2012 the FTC adopted a new “free-of” section” which is more closely aligned with ISO 14021:1999(E) language which states that an environmental claim which advertises that a particular product is “free of” a specific substance “shall only be made when the level of the specified substance is no more than that which would be found as an acknowledged trace contaminant or background level.” Despite this overlap, it is important to note the objectives and parameters of the two protocols. Government regulations like the U.S. Green Guides seek to prevent the dissemination of misleading environmental benefit claims whereas ISO standards are fundamentally configured to guide particular consumer behavior and shape environmental policy concerns.

Roundtable on Sustainable Palm Oil (RSPO, 2014)

Founded in 2004. RSPO’s mission is to incentivize sustainable production practices by setting global standards for sustainable palm oil products (International Institute for Sustainable Development). The RSPO is a leader in voluntary standards, certifying over 18% of global palm oil production (Roundtable on Sustainable Palm Oil Impact Report, 2014). The standards set forth by RSPO follow protocol set by ISEAL Alliance’s best practice recommendations and are influenced by other international standards. Third-party verification of compliance to standards is required for certification. Upon certification, products containing at least 95% certified sustainable palm oil can tout the RSPO trademark. The demand for certified sustainable palm oil is increasing due to the efforts of a number of companies who have committed to using certified sustainable palm oil. While *Organic Standards* (*see, generally* <http://www.ams.usda.gov/AMSV1.0/nop>) and *The Rainforest Alliance* (<http://www.rainforest-alliance.org>) are other voluntary standards used in this industry, the adoption of these standards is significantly less than RSPO standards.

CERTIFICATION MARKS AND PROCESSES

Successful eco-labeling faces a plethora of challenges. Gallastegui (2002) notes that eco-label designs must be selected objectively to align with relevant criteria or standards. Performance measures that gauge true environmental outcomes as opposed to industry process outputs should be selected and specific definitions provided throughout the process. Product parameters and certification processes must be clearly delineated to avoid arbitrary applications. A market analysis should be done to determine both the demand and market share for labeled goods. Many marks seemingly offer the consumer an independently-verified guarantee that the product or service has met certain environmental standards while concomitantly giving the business a marketing edge. More globally-recognized companies have developed their own eco-logos, eco-standards, and compliance metrics, either in preference or in addition to existing third-party stamps of approval.

The following is a sample listing of certain labels, logos, stamps, and certification metrics; their respective countries or regions of origin and areas of application; and particular characteristics identifying each unique brand:

TABLE 4
A SELECTION OF SYMBOLS AND PROCESSES

SYMBOL OR PROCESS	COUNTRY OF ORIGIN	SIGNIFICANCE IN ECO-LABELING
	<p><i>United States</i> (also adopted by the EU, New Zealand, Taiwan, Canada, Japan, and Australia)</p>	<p>The <i>Energy Star</i> logo is an international standard signifying energy-efficient products such as computers, appliances, and buildings. This service mark signals that such product generally uses 20–30% less energy than required by federal standards.</p>
	<p><i>Germany</i></p>	<p>The Blue Angel (Der Blaue Engel), the oldest eco-label in the world, has been awarded since 1978 to products and services after rigorous certification conducted by the German <i>Jury Umweltzeichen</i> comprised of 13 people drawn from consumer protection groups, industry, unions, and the media. This mark currently covers approximately 10,000 products.</p>
	<p><i>European Union</i></p>	<p>The EU <i>Ecolabel</i> aims to stimulate both supply and demand of products with reduced environmental impact. Criteria for its use are set by the EU Ecolabeling Board (Bowman, 2009).</p>
	<p><i>United States</i></p>	<p>First carbon-neutral label in the US, recognizing products and companies compensating for their carbon footprint. Provides own certification process (https://www.carbonfund.org).</p>
	<p><i>Global</i></p>	<p>The Global Recycled Standard (GRS) denotes companies that are making and/or selling products with recycled content. The standard applies to all industries, addressing content traceability, environmental principles, and labeling (http://textileexchange.org/GRS).</p>
	<p><i>Australia</i></p>	<p><i>Greenhouse Friendly</i> provides Australian businesses with the opportunity to market greenhouse neutral products or services, deliver greenhouse gas abatement, and give Australian consumers greater purchasing choices. The Program's Administrator also organizes independent verification services and life cycle assessments for participants.</p>

	<p><i>North America</i></p>	<p>The Climate Registry encourages governments, businesses, and NGOs to voluntarily increase energy efficiency and decrease GHG emissions in services and products, providing consumers point of purchase emission information (http://www.theclimateregistry.org/).</p>
	<p><i>United States</i></p>	<p>Created by the U.S. Department of Agriculture, products bearing this seal indicate that national standards for food have met, whether grown in the US or imported from other countries. The label verifies that the foodstuff has been produced without using <i>most</i> conventional pesticides, synthetic fertilizers, bioengineering, or ionizing radiation (http://www.ams.usda.gov/AMSV1.0/NOP).</p>
	<p><i>Worldwide certification process administered by Occupational Knowledge International in San Francisco, CA, US</i></p>	<p>The Better Environmental Sustainability Targets (BEST) certification provides recognition for lead battery manufacturers that meet minimum emission standards and agree to accept used batteries for environmentally-sound recycling (http://www.ecolabelindex.com/).</p>
	<p><i>United States</i></p>	<p>The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages the global adoption of sustainable green building practices through the implementation of universally-understood performance criteria. Independently verified, LEED is managed by the U.S. Green Building Council (http://www.usgbc.org/leed#rating).</p>
	<p><i>Global</i></p>	<p>This seal verifies that a product comes from a farming or forestry operation meeting prescribed environmental standards. Provides independent verification system. Product labels currently found in <i>Australia, Austria, Belgium, Canada, Denmark, France, Germany, Ireland, Italy, Japan, South Korea, the Netherlands, New Zealand, Norway Poland, Portugal, South Africa, Spain, Sweden, Switzerland, Taiwan, U.S., U.K.</i> (http://www.rainforest-alliance.org/).</p>

ECO-LABELING STATISTICS AND FACTS

As demonstrated *supra*, eco-labels are effective tools for consumers wishing to make environmentally-conscious purchases. By providing a visual environmental claim directly on a product, the eco-label allows consumers to immediately identify environmentally-preferred products. Yet, many eco-labels are divergent—not because they may be narrowly tailored to represent a different industry sector or are relevant only in certain markets – but because they do not all carry the same credibility and clout. A survey conducted by Duke University’s Nicholas Institute for Environmental Policy Solutions (NIEPS) revealed vast differences in the practices and operations (such as certification and evaluation processes) of the over 150 eco-labels surveyed. The high degree of variability present within the markings indicates a lack of uniform standards to help regulate the industry and provide quality assurance for the consumer.

Impact Measurement

To compound uniformity and enforcement deficits, a majority of eco-labeling organizations surveyed were unaware of the market share of products, services, or goods bearing their own eco-labels. NIEPS research additionally revealed that only 44% of Single-standard labels produced by marketers had conducted an impact study. One-third of labelers surveyed had made no attempt to monitor or evaluate the environmental benefits of their eco-labels programs and had no intention of doing so.

Time to and Duration of Certification

Certification processes by eco-labeling organizations are highly variable for manufacturers absent unambiguous and uniform market standards. Among the Single-standard labels surveyed, study findings indicate that the average time to gain certification was 4.33 months while Multiple-standard eco-labels commanded approximately 3.48 months (*see* Figures 4 & 5).

FIGURE 4 (SINGLE-STANDARD LABELS)

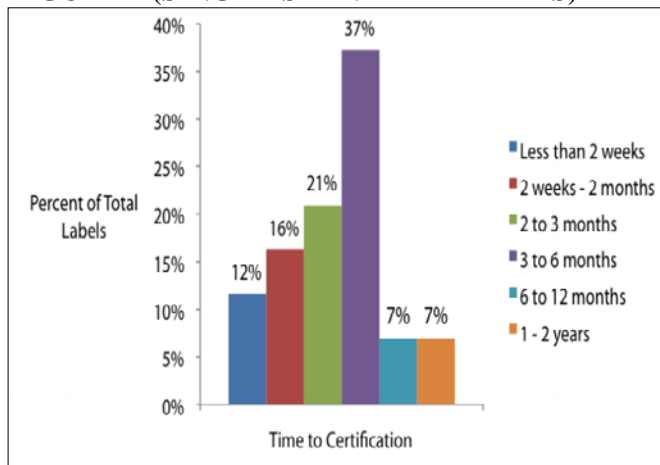
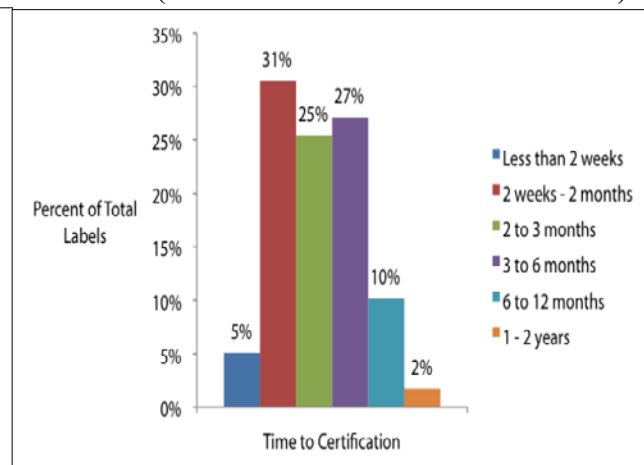


FIGURE 5 (MULTIPLE-STANDARD LABELS)



After receiving initial certification, there is no clear standard for the length of time a manufacturer is permitted to display its eco-label before reassessment is required. With respect to Single-standard labels, the study shows that 45% of labels offer certification that lasts one to two years; 16% of labels last less than one year; while 14% last indefinitely. With respect to Multiple-standard eco-labels, approximately one-third certify for less than two years; one-third certify for two to four years; and one third certify for five years or more. Additionally, fifty-nine percent of labels require improvement in performance over time, while 41% have static standards.

CONCLUSION

1. Consumers, manufacturers, businesses, and governments are connecting the dots. The ravages of climate change are here and threaten the very existence of our planet. As pollution knows no boundaries, it is imperative now more than ever that world citizens join with industry and government leaders to address these problems with ferocity of spirit and comprehensive innovation. As market demand is created by the consumer, the consumer must be properly educated to best identify those products and services which will have the lowest environmental impact.

2. Industry must be ready to answer this burgeoning world market demand for greener products in a sustainable and transparent manner. Survey data unequivocally demonstrates a growing world market share for green items as well as provides a direct correlation between earth-friendly goods and increased profits. Those goods and services produced must be of essential use to the consumer, created in a manner with less or no negative environmental consequences, and advertised by truthful assertions of environmental impact. Labels, stamps, and assurances of certification should provide an accurate description of the good's green attributes.

3. NGOs, businesses, and governments must lead together. These entities must fashion rules, laws, voluntary processes, and treaties to determine the trustworthiness of eco-labels and certification processes and continue to engage in dialogue to make these efforts universal in scope and monitoring. Such collaborations should not regress from addressing the science catapulting environmentally-friendly products and services into the market and how they should be advertised to its global citizens. The United Nations Framework of Convention on Climate Change—Conference of the Parties ((UNFCCC-COP) is striving to secure a comprehensive and enforceable universal agreement on restricting carbon emissions at its “COP21” meeting in December 2015. This meeting is predicted to serve as a historic opportunity for business, finance, and heads of governments to collaborate to produce solutions that will work to curb GHG emissions, stimulate greener market growth, and create prosperity for their respective economies. With a well-coordinated gathering of stakeholders presenting viable prospects of greener growth, this assembly is predicted to generate a worldwide agreement, enforceable by 2020, of a greener economy.

4. Consumer Research: A growing number of mainstream consumers are exhibiting a heightened sense of urgency regarding the devastating effects of climate change and the collective call to environmental protection. The adage “If you're not part of the solution, you're part of the problem” appears to be incentivizing citizens to want to live a greener life as has been demonstrated by spending patterns documented within the last decade which reflect their desire to see the brands they use go green as well (Bowman, 2009).

The renewed opportunities for green marketing will ostensibly ascend to its apex.

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