

Print Design  
and Environmental  
Responsibility

7



*AIGA | the professional association for design*

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### **Letter from the director**

AIGA is often associated solely with its role in celebrating examples of design that are unforgettable for their creativity, finesse, effect and beauty. Yet AIGA also is committed to advancing professional and ethical standards for the design profession, and to encouraging greater understanding of the fundamental value and relevance of design to business and society.

This brochure in the AIGA Design Business and Ethics series provides designers and other graphic communications professionals with an introduction to design and print production practices that demonstrate respect for the challenges of one of the truly critical issues of our age: the balance between economic gain and environmental degradation. For design to be responsive to a client's needs, it should be responsible and appropriate. Appropriateness, in the 21st century, will entail respect for resource constraints.

This primer includes best-practices tips and links to resources that will enhance your ability to design, produce and purchase print responsibly. Social responsibility has economic and environmental dimensions. This broad perspective is often described as a commitment to "sustainability," which has become a term-of-art for advancing economic activity while ensuring that we can sustain our activities in a sometimes fragile world without harming the future's potential. Showing respect for these consequences is no longer a fringe issue. Businesses are driving this agenda, and designers must learn to be trusted advisors on responsible communication techniques to serve clients effectively.

Business is beginning to understand how important a commitment to sustainability is in its strategic positioning and long-term economic well-being. This awareness of the issue—if not demonstrable performance—is becoming mainstream in business thinking. It is critical to the designer, as a trusted advisor to business on communication and positioning issues and as a crafter of design artifacts, that the profession also make these issues mainstream in its thinking.

We hope that this primer will address myths and misconceptions that reduce the impact of design, help designers understand the criteria they should use in taking a project to print, and address practical questions that will help designers in their quest.

Richard Grefé,  
*Executive director, AIGA*

## Print design and environmental responsibility

Design decisions are among the most critical issues in determining the external impacts of a product, service or communication over its entire life cycle. Designers, in pursuit of appropriate responses to client needs, have ethical responsibilities to provide work that minimizes adverse (i.e., unreasonable or inappropriate) consequences, creates value, and engenders positive results.

The highest and best use of a designer's special talents is creativity and skill in addressing a client's communication needs while balancing the economic, social and environmental consequences of his or her design recommendations. Designers, along with those in many other professions, have an obligation to "do no harm." In pursuit of this goal designers, in serving clients, stakeholders and the public, can create special value and play a crucial role in supporting the requirements of business to be environmentally and socially responsible.

While there are comparatively few negative environmental effects *directly* associated with the design and procurement of print, design decisions made in the initial stages of a product life cycle, even when the product is a communication strategy, predetermine many of the waste streams and environmental damages associated with printed matter.

Whether your design decisions are governed by the inspiration of a muse, the rational arguments of business logic, or some combination of the two, this guide should help you see more clearly a path toward responsible design for print.

There are many interpretations of the term "sustainability," and its definition continues to evolve as global debate on the topic widens. For some, it means maintaining the status quo. For others it is equated with notions of responsibility, conservation and stewardship. However, for a growing number of people, sustainability is a concept associated with "sustainable development," the first definition of which was articulated in the United Nations World Conservation Strategy of 1980. "Development" in this context includes economic growth, human rights and the satisfaction of basic human needs:

For development to be sustainable, it must take account of social and ecological factors, as well as economic ones; of the living and non-living resource base; and of the long-term as well as the short-term advantages and disadvantages of alternative action.

Regardless of which definition of sustainability resonates with your views, there are several myths and misconceptions about it that this guide will help you confront.

## **Myth 1:** Print design is not an environmental issue.

The production of paper and printing have never been more sensitive to environmental concerns than they are today. Yet there has never been a greater need for continuing to improve upon the *status quo*.

Despite predictions that digital media will result in less printing, the use of print has been on the rise since the invention of movable type by Bi Sheng in the year A.D. 1045. Americans in particular are prodigious consumers of printed products and paper. Although the United States represents less than 5 percent of the world's population, it consumes more than 25 percent of the world's paper and printed products.

Americans receive over 65 billion pieces of unsolicited mail each year, equal to 230 appeals, catalogs and advertisements for every person in the country. According to the not-for-profit organization Environmental Defense, 17 billion catalogs were produced in 2001 using mostly 100 percent virgin fiber paper. That is 64 catalogs for every person in America.

According to the American Forest and Paper Association, the average American uses more than 748 pounds of paper per year, and waste paper is America's single largest export by weight. It takes about 68 million trees per year to produce the catalogs and appeals we receive annually, yet nearly half of this mail is thrown out unopened. For companies like Anheuser Busch and Coca-Cola, primary packaging is their single largest expenditure, and discarded packaging represents over 30 percent of the solid waste buried in U.S. landfills each year.

A common perception is that the adverse environmental impact of paper use is the consumption of trees. In fact, since trees are a renewable resource, their use in paper is not as detrimental to ecological balance as the damage incurred in the process of converting wood to paper. Paper manufacturing alone is the third largest use of fossil fuels worldwide and the single largest industrial use of water per pound of finished product. Printing inks and toner are the second largest uses of carbon black, which is primarily manufactured by the incomplete combustion of oil. Even the manufacture of soy-based inks typically involves the extensive use of diesel fuel, petroleum-based pesticides and herbicides. In addition, some question the use of ink made from genetically modified soy due to genetic pollution risks to organic farming.

If all of the world's more than six billion people were to design, produce, consume and dispose of paper and print as North Americans do, we would require four times the resources available on our planet and would still not be able to achieve sustainable economic growth.

Design choices play a major role in determining the financial, environmental and social consequences associated with the selection of raw materials and processes employed in the production of printed products. This places the design profession in a pivotal role in determining the character of the environmental impacts from printing, including the emission of greenhouse gases and persistent organic pollutants.

To those concerned with the fragile balance of our ecology, the dangers have been clear. From the perspective of designers, however, it is also important to observe an increasing influence on clients' behavior: growing pressure from investors, employees and other stakeholders to change the manner of their consumption of forest products, paper and packaging.

## **Myth 2:** There is limited market demand for environmentally responsible design and print production.

Green printing and environmentally responsible design have operated on the fringes of commerce since the publication of Rachel Carson's *Silent Spring* in 1962, but a "perfect storm" of corporate scandals and rising concern about global warming, water shortages and other threats to life as we know it are changing the governance and purchasing priorities of business.

Both business and governmental leaders are now struggling to restore investor and consumer confidence in financial markets. This struggle has increased the number of major corporations that are embracing the concept of corporate social responsibility (CSR) and making it an organizing principle for public corporate governance reform and business management. One international business initiative to codify the reporting of corporate social responsibility is the Global Reporting Initiative (GRI),

a coalition of businesses that are defining the measures for reporting corporate activity according to a "triple bottom line" of economic, social and environmental impacts.

Increasingly, it is likely that corporations will be asking designers to create CSR and GRI reports along with their traditional annual reports. A time may come when performance reports will combine the attributes of all of these into a single statement expected by the public and investing community. According to the annual report of the United Nations Global Compact, more than 1,000 companies from 53 countries are now participating in voluntary Global Compact initiatives for the management and reporting of corporate social responsibility (CSR) in their annual reports. This represents an increase of 100 percent in 2002-2003 alone.

Business leaders at companies such as DuPont, Johnson & Johnson, Procter & Gamble and Toyota are moving from seeing environmental stewardship as a necessary evil to viewing sustainability as a driver of top-line growth and opportunity. For many of the world's largest transnational corporations, sustainability has become the central focus of efforts to secure their future economic growth and create new markets for their products. Yet few have managed to integrate it successfully into their current, ongoing operational decision-making and business practices. The need for print solutions with improved financial, social and environmental performance is becoming a high priority for companies that rely heavily on print in industries like consumer goods, publishing, retail and banking.

Designers have an opportunity to create measurable "triple bottom line" value for their clients by viewing their design and production decisions—a highly visible public expenditure of clients' funds, if not a major portion of their total expenditures—through a lens of sustainable business principles and ethical priorities. This challenge to designers involves both content and form: designers can counsel their clients on the form of the message, while also balancing their aesthetic decisions from economic, social and environmental perspectives.

The significance of print media to business has spawned a number of sustainable design initiatives that address core concepts and issues from which designers and other graphic communications professionals can derive valuable insights. Examples include the U.S. Environmental Protection Agency's (EPA's) Cradle-to-Cradle Design Award and the recently announced Resource Conservation Challenge.<sup>3</sup>

The economic, social and environmental impacts of print are substantial, although they are hidden in plain sight. According to an analysis of 1999 U.S. Department of Commerce figures, paper and commercial printing expenditures represent 10-15 percent of all corporate expenditures exclusive of labor. For publishers, the figure is 35 percent. However, despite its magnitude, print is typically not the first area of concern subjected to scrutiny when companies make sustainability a priority. This is the case for at least five reasons:

- Printing is seen as a necessary evil rather than as a mission-critical activity
- Print-related activities are not managed centrally
- The total costs of print—direct and indirect, long-term lifecycle costs—to the enterprise are seldom measured
- Print is so pervasive that it is taken for granted
- Design and printing processes are seen more as art than science

However, there is growing evidence that the environmental and social aspects of publishing, printing and packaging cannot be ignored indefinitely. For example, there is a work group of the Global Environmental Management Initiative that is investigating ways in which companies can identify environmental issues along their supply chains, including environmentally preferable enterprise publishing, printing and packaging.<sup>3</sup>

This increased attention to environmental responsibility can be an opportunity for designers to be seen as critical advisors to corporations on how to reduce their negative impacts without compromising the imperative for product differentiation and promotion through design and printing.

Prescient designers will neither be discouraged by lack of interest on the part of traditional print buyers, nor will they wait for environmentally preferable purchasing criteria to be established. Rather, they will seek out corporate sustainability officers, marketing and strategy executives, and other corporate executives for whom management of corporate social responsibility is a key priority. There is no need for environmentally preferable print to require aesthetic compromise or unreasonable premiums, and the brand image value of responsible print has measurable importance. For example, a partnership between CitiGroup and The Alliance for Environmental Innovation<sup>4</sup> is expected to generate annual savings of 1,000 tons of solid waste, 19 million gallons of wastewater pollution, and 2,000 tons of greenhouse gas emissions with no increase in direct costs. At Citibank's current rate of annual paper use, this change alone will result in potential savings of 6,700 tons of wood each year, enough to build 500 average single-family homes in the United States.

### **Myth 3:** Business leaders are concerned only with reducing costs and generating profits.

The evidence is clear that there is abundant need for the restoration of trust in business. According to a recent survey of more than 160 senior executives conducted by Nima Hunter Inc. in conjunction with Ethical Corporation magazine, the management of corporate social responsibility in accordance with the principle of sustainability is seen as the key to regaining that trust.<sup>3</sup> In the words of Dow Chemical chairman William S. Stavropoulos:

Companies that don't meet their responsibilities to all their constituencies will have a difficult time. Responsible customers won't want to buy their products. Talented people won't want to work for them. Enlightened communities won't want them as neighbors. And wise investors won't entrust them with their economic futures.

One of the first steps taken by corporate leaders upon having a CSR epiphany is to commission the publication of a corporate social responsibility report to signal their conversion. With the erosion of trust in business brought about by the rash of recent scandals and a sagging economy, there has been a bull market in the number of corporate sustainability and environmental reports being published by Fortune 500 companies. Graphic designers with a sensitivity toward and knowledge of these issues are crafting the messages as well as the form of these reports.

According to a recent CSR Network and Cameron Cole survey of the environmental, social and sustainability reporting practices of the 100 largest companies in the world, almost half are producing global environmental or social reports. These reports typically exemplify the state of the art in sustainable design and printing. However, designers and printers should look beyond CSR reports and seek opportunities to apply sustainable design principles to advertising, direct mail, packaging and other uses of print. Corporations are facing increasing criticism that CSR reports alone are not enough.

Investors, employees and non-governmental organizations (or NGOs, the large number of nonprofit organizations that are concerned with corporate responsibility and environmental issues) are looking for evidence that the concept of sustainability is being adopted root and branch at every level of the organization and throughout corporate supply chains. It is the need to put the principles of sustainability into practice at a grassroots level that presents graphic communication professionals with their most significant challenges and opportunities.

The challenge is to work as a partner with clients to design solutions that create less waste, less negative impact on the environment and more value to stakeholders. Sustainable design strategies are the key to print's future. To quote designer/architect William McDonough: "You don't filter smokestacks or water. Instead, you put the filter in your head and design the problem out of existence."

## **Myth 4:** Using paper with recycled content and soy-based inks will eliminate the negative impacts of print.

One way of dealing with complexity is avoidance. Another is oversimplification. The specification of postconsumer recycled paper and the use of ink based on renewable resources are important steps in the right direction. However, designers need to avoid simplistic approaches. They need to know more, do more and demand more if design, printing and printers are to contribute to sustainable processes of production. It is important to specify recycled paper, but it is not enough.

There are four essential aspects of recycling:

- The design of products that use less virgin material and that themselves can be recycled
- The manufacture of these materials into new recyclable products
- The collection and processing of recyclable materials
- The specification, purchase and use of recycled-content products

Whether the issue is paper, ink or the selection of a printer, designers and specifiers make environmentally preferable choices only when the environmental "lifecycle" aspects and impacts of their raw material and production process choices are evaluated against alternatives. A lifecycle analysis (LCA) involves measurement and/or estimation of how much energy and raw materials are used and how much solid, liquid and gaseous waste is generated at each stage of the product's life, from the extraction of the raw materials used in its production and distribution, through to its use, possible reuse or recycling, and its eventual disposal.

The sustainability of a product or process requires an analysis of more than recycled paper content or soy ink content. How a product is printed, distributed, used and recovered is as important as the raw materials of which it is made. When developing designs or advising clients, designers should learn to consider the entire production process, from paper choices to printing methods to distribution, use and recovery of resources.

Ask suppliers whether they can provide independently verified information about the lifecycle environmental impacts of materials and processes. Manufacturers can apply for the International Standards Organization (ISO) 14000 series of standards, an international benchmark for commitment to continuous improvement in environmentally responsible performance; as a consumer or specifier, the designer can ask whether a manufacturer is ISO 14000-qualified. Favor vendors and suppliers that measure, manage and report on the total environmental performance of their products and services based on a standard such as the ISO 14042 Lifecycle Assessment model.<sup>6</sup> Companies such as HP offer best-practice examples, along with efforts of organizations participating in international Environmental Product Declaration initiatives.<sup>7</sup>

Manufacturers of printing equipment, paper, ink, toner and other chemicals employed in printing and packaging like Heidelberg, HP, MeadWestvaco, Domtar, NewLeaf, Stora Enso, DuPont, 3M and Dow Chemical recognize the value of sustainable development, yet much of what they have accomplished is not visible to customers. Ironically, some companies see little evidence of demand for sustainable solutions among printers and other buyers of their products. In part, this may be due to the complex specification and purchasing relationships that exist among designers, printers and corporate clients. In part, it may be due to lack of information, lack of awareness, lack of knowledge or apathy on the part of buyers.

One indication of this lack of attention is apparent in exploring the issue on the web. At the time this guide was written, using the popular search engine Google yielded over 1.5 million citations for the term "sustainable development" and more than 178,000 citations for the term "corporate social responsibility." In contrast, searching the term "sustainable design" resulted in only 73,500 citations, most of which had to do with industrial or architectural design. Searching the term "sustainable print" yielded 38 citations, while searching "sustainable print design" yielded none.

Designers have an opportunity to make their interest in environmentally preferable products and services known. To be credible, designers and graphic communication professionals will need to learn to speak the language of sustainability and to engage vendors, suppliers, customers and other stakeholders in this issue. Designers also have an obligation to themselves and to their profession to seek the knowledge and skill required to move sustainable design from the margins to the mainstream of design practice and business communications in print.

**Myth 5:** There are no sources of information, training programs or services available to support efforts to design and produce print in a sustainable manner.

An abundance of information about sustainability exists, as does a vast array of training, education and support services available from colleges, universities and community centers, federal and state government, consulting firms and not-for-profit organizations. In addition to the footnotes in this guide, a list of web links to useful resources is provided in the appendix.

Designers can seek assistance and support from not-for-profit organizations like Conservatree,<sup>8</sup> the Alliance for Environmental Innovation,<sup>9</sup> or The Woodside Institute.<sup>10</sup> Designers can also make use of certification systems and guides for the evaluation of lifecycle environmental impacts from organizations like the Forest Stewardship Council<sup>11</sup> and The Nordic Swan.<sup>12</sup> Efforts such as the

United Nations Environmental Program's Lifecycle Thinking Initiative also provides tools, training and support for lifecycle environmental management.<sup>13</sup>

The EPA's Design for the Environment program<sup>14</sup> is but one of many that promotes the integration of cleaner, cheaper and smarter solutions into a wide variety of everyday products and business practices. Also, a coalition of 56 environmental groups recently crafted a common vision for environmentally preferable paper that is being adopted by a growing number of companies.<sup>15</sup>

Conservation of resources associated with paper use is among the high-priority challenges identified by the EPA's Resource Conservation Challenge (RCC).<sup>16</sup> The RCC program is a major national effort to find flexible yet more protective ways to conserve our valuable resources through waste reduction and energy recovery activities. These activities will improve public health and the environment and are also supported by the American Forest and Paper Association.

#### **Recommendations and information resources**

*1: Environmental issues to consider when designing or specifying raw materials or printing processes.*

Design-for-environment and lifecycle-management principles are the most significant issues to consider when designing or specifying printing. Organizations like Nordic Swan<sup>17</sup> have proven that lifecycle concepts can be successfully employed in the design, specification, production and procurement of a wide array of products and processes, including printing and packaging.

It is important for designers to identify and partner with capable and responsible suppliers who share a commitment to "beyond compliance" environmental management in order to fully evaluate and minimize the

adverse environmental impacts of design choices and production process alternatives.

*2: Principles of environmentally responsible print design.*

- Rethink features and functions to use less material and less energy
- Consider closed-loop lifecycles from design through production, use and recovery
- Design for recyclability, reusability and recoverability of energy and materials
- Seek independently verified data about environmental aspects and lifecycle impacts
- Select materials with less impact and toxicity (via air, water and solid waste streams)
- Increase use of recycled and renewable materials
- Optimize production techniques to eliminate scrap, error and waste
- Select lower-impact packaging and distribution systems
- Design for reduced energy use, water use, and waste impacts during use
- Maximize the length of the product's useful life
- Recover, reuse and recycle materials at end of the product's life

*3: Criteria to consider in selecting a printer.*

- Management commitment to environmental stewardship that extends beyond legal compliance

- All major suppliers and sub-contractors are informed of the environmental policy and encouraged to adopt similar standards
- A dedicated manager for environmental health and safety
- Standards-based environmental and quality management systems
- Evidence of lifecycle thinking and continuous improvement applied to key products, services offerings and business practices
- Fuel and energy use data
- Water use data
- Air emissions data
- Solid waste recycling and disposal data
- Toxic emissions reporting data
- Transportation and storage of raw materials and finished goods
- Environmental violations, fines and lawsuits
- Community involvement and corporate philanthropic activities

In addition to the criteria listed above, designers and specifiers should evaluate printers based on a number of other factors. This checklist is not a set of threshold attributes for a responsible printer, although it does detail aspects of a printer's approach toward sustainable practices that a designer should know if he or she is to use a printer consistently while also advising clients on the choice of printers. Increasingly, clients may need to report information like this pertinent to their procurement and supply chain activities in their CSR reports and/or in their annual reports:

- Facilities location, orderliness, cleanliness and environmental conditions
- Published environmental performance improvement goals and objectives
- Quality management processes
- Stakeholder relationship management processes
- Raw materials lifecycle analysis data
- Worker health and safety data

- Public disclosure and verification of performance and improvement goals
- Innovative use of clean technologies and sustainable business practices
- Environmental stewardship certifications, citations and awards

In addition, designers and specifiers should evaluate the degree to which printing companies support environmental and sustainability education, training and awareness-building initiatives with supplier, community, governmental and non-governmental organizations.

Finally, designers should assess the degree to which individual employees are encouraged to assume leadership and supporting roles as volunteers in community and industry efforts to promote sustainable development and corporate social responsibility.

It is important to note that due to more stringent regulatory environments, printers in Europe and Canada have adopted formal environmental management systems and certifications to a far greater extent than is the case in the United States, but global transnational corporations are finding that there are advantages to adhering to a single set of strict standards.

The most prevalent standard for environmental management systems in existence is the International Standards Organization (ISO) 14001 standard. It is important to note that ISO 14001 does not mandate any specific level of environmental performance or reporting. Rather, it provides a continuous improvement framework, which can be adapted on a firm-by-firm basis. Therefore, one should not assume that ISO 14001 alone is a reliable indicator of sustainable business practices.

Some may believe that the list of issues and performance factors described above is an impossible, impractical or economically infeasible threshold. Yet there are numerous examples of large, small and medium-sized printers in Europe, Canada and the United States that score well on all of these factors.

One example of particular note is the British printing company Beacon Press Ltd.,<sup>18</sup> a 60-person company founded in 1976 that is located in Uckfield, East Sussex. Beacon Press has won more than 21 awards for its environmental management system. Among its many achievements, Beacon Press has reduced its gas consumption by 46 percent and its water use by 57 percent since 1995. It has totally eliminated all alcohol used in the printing process. It uses vegetable-based inks, recycles 95 percent of all dry waste, uses green electricity generated from renewable sources, and 95 percent of its press-cleaning solvents are recycled for further use. Beacon Press has made a corporate commitment to participate in the British government's voluntary initiative to reduce CO<sub>2</sub> emissions, waste and water consumption by 2005 and to report on the effectiveness of its efforts through a series of 21 performance indicators that are objectively measured each month. Beacon also donates one percent of its profit to community investment and is a member of the Campaign to Protect Rural England (CPRE), Earthwatch, the World Wildlife Fund, the 95+ Group and the United Nations Pioneers in Responsible Enterprise Project.

Designers should note that there are many printing companies in Europe that have profiles similar to Beacon's, but there are comparatively few in the United States. At present, of the more than 40,000 printing companies in the United States, only six currently have ISO 14001-certified environmental management systems. While printing companies that have taken a proactive stance are the exception rather than the rule in the United States, several have made substantial investments and public commitments that are worthy of recognition. Such companies are forerunners in a "greening" of the American printing industry that will play a critical role in preserving the vitality of our economy, ensuring our international competitiveness, conserving essential natural resources, protecting the environment and restoring trust in business.

Anderson Lithograph in Los Angeles, a division of Mail-Well Inc., has developed a comprehensive ISO 14001 based approach to the management of "everything that it takes, makes and wastes." Anderson Lithograph are pioneers in the application of innovative clean technologies. For example, all electricity is generated through an onsite natural gas-fueled cogeneration facility, which was customized to capture nearly all volatile organic compound (VOC) emissions of both web and sheet fed presses. This qualifies

Anderson's facility for permanent total enclosure (PTE), as certified by the local Los Angeles County air quality regulatory body. Anderson Lithograph is a member of the Coalition for Environmentally Responsible Economies (CERES), is Forest Stewardship Council Chain of Custody certified, is a member of the California Climate Action Registry and is in the process of becoming ISO 14001 certified.<sup>19</sup>

While Anderson Lithograph is a large operation, another printer worthy of special note is Ideal Jacobs,<sup>20</sup> a small, 14-person printing company in northern New Jersey. Not only is it ISO 9000 and ISO 14001 certified, but it has been selected for inclusion in the EPA Performance Track program for companies that consistently meet their legal responsibilities and have implemented high-quality environmental management systems. Ideal Jacobs has also been selected for recognition by the OSHA Safety and Health Achievement Recognition Program (SHARP) for companies with exceptional health and safety systems.

It is through the emulation and encouragement of leaders like Anderson Lithograph and Ideal Jacobs that the environmentally preferable printing alternatives available to designers, print buyers, graphic communications professionals and the organizations they serve will grow. Similarly, it is through the active engagement of marketing communicators, corporate sustainability executives, supply chain executives and procurement managers at companies that are publicly committed to environmental stewardship and corporate social responsibility management that designers will find new opportunities to put the principles of sustainable design into practice.

Successful engagement requires patience, persistence and an open mind, as well as willingness to overcome challenges such as listening to critics; identifying champions; securing buy-in from stakeholders; coordinating the activities of internal functions and suppliers; ensuring clear communication between internal functions and suppliers; addressing technical difficulties that can arise and hinder implementation; or confronting difficulties encountered in correctly specifying new materials and production processes.

An excellent place to start your search for prospects is among the 296 companies with CSR reports listed on CSRwire.<sup>21</sup> Other places to connect with business leaders and managers that value environmentally preferable procurement are meetings and conferences associated with organizations such as the National Association for Environmental Management,<sup>22</sup> The Global Environmental Management Initiative (GEMI) Value Chain Workgroup, or the Institute for Supply Management's Commission on Social Responsibility.<sup>23</sup>

**Where can I turn for information, training, education and support for responsible design in print?**

Sustainability is a journey rather than a destination. In turn, the following links and resources are offered to start you on the path toward greater awareness of the need for change. The knowledge that you acquire and share with others in the fields of business and print technology will expand the transformative power of design and increase the value of print. The responsibilities of designers and the power of design are aptly described by Stefano Marzano, CEO and chief creative director of Philips Design:

Design plays a key role in the shift towards a sustainable future. Due to its very nature of bridging socio-cultural developments and technology, design is a powerful engine for sustainable development. And in their privileged role as interpreters and communicators between people and technology, designers can stimulate new ways to satisfy people's needs. In short, they can generate valuable solutions that are economically, socially and environmentally sustainable. Taking responsibility for tomorrow, today.<sup>24</sup>

For many designers the exploration of sustainable development concepts like lifecycle analysis and triple bottom line analysis may be unfamiliar or challenging. Much of the literature pertaining to sustainable graphic design and environmentally preferable printing has yet to be written. However, there are many not-for-profit organizations, trade associations, educational institutions and community groups that are converging on the concept of sustainability, and designers should monitor their progress in the interest of always staying ahead of their clients in understanding such critical issues.

Whether your motivation is a moral imperative, a business case, or some combination of the two, we invite you to explore the sources of information currently available (see Resource Links) and join AIGA in raising awareness and capacity for sustainable human communication through the power of design and print.

## Resource Links

**AIGA Center for Sustainable Design**  
[sustainability.aiga.org/](http://sustainability.aiga.org/)

**Alliance for Climate Protection**  
[www.allianceforclimateprotection.org/](http://www.allianceforclimateprotection.org/)

**The Alliance for Environmental Innovation**  
[www.environmentaidedefense.org/](http://www.environmentaidedefense.org/)

**American Forest & Paper Association Environmental & Recycling Info**  
[www.afandpa.org/](http://www.afandpa.org/)

**Beyond Grey Pinstripes**  
[www.beyondgreypinstripes.org/](http://www.beyondgreypinstripes.org/)

**Bioneers**  
[www.bioneers.org/](http://www.bioneers.org/)

**Business for Social Responsibility**  
[www.bsr.org/](http://www.bsr.org/)

**Center for Design**  
[www.cfd.rmit.edu.au/](http://www.cfd.rmit.edu.au/)

**The Center for Paper Business and Industry Studies**  
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**Center for Responsible Business, UC Berkeley**  
[www.haas.berkeley.edu/responsiblebusiness/](http://www.haas.berkeley.edu/responsiblebusiness/)

**The Centre for Sustainable Design**  
[www.cfsd.org/](http://www.cfsd.org/)

**Ceres**  
[www.ceres.org/](http://www.ceres.org/)

**College of the Atlantic: Human Ecology Program**  
[www.coa.edu/](http://www.coa.edu/)

**Conservatree**  
[www.conservatree.com/](http://www.conservatree.com/)

**Cranfield University: Sustainability and Design**  
[www.cranfield.ac.uk/students/prospectus/](http://www.cranfield.ac.uk/students/prospectus/)

**Design With Memory**  
[www.designresource.org/](http://www.designresource.org/)

**The ECO Design Center**  
[www.ecodesigncenter.com/pages/designer.html/](http://www.ecodesigncenter.com/pages/designer.html/)

**EcoMarket**  
[www.ecomarket.net/](http://www.ecomarket.net/)

**Eco-Procurement Good Practice Guide**  
[www.iclei-europe.org/](http://www.iclei-europe.org/)

**Ecospecifier**  
[www.ecospecifier.org/](http://www.ecospecifier.org/)

**The EnviroLink Network**  
[www.envirolink.org/](http://www.envirolink.org/)

**Environmental Defense**  
[www.environmentaldefense.org/home.cfm/](http://www.environmentaldefense.org/home.cfm/)

**Environmental Product Declarations**  
[www.environdec.com/](http://www.environdec.com/)

**Ethical Corporation Magazine**  
[www.ethicalcorp.com/](http://www.ethicalcorp.com/)

**Forest Ethics**  
[www.forestethics.org/](http://www.forestethics.org/)

**Forest Stewardship Council**  
[www.fscus.org/](http://www.fscus.org/)

**Global Citizen Center**  
[www.globalcitizencenter.org/](http://www.globalcitizencenter.org/)

**Global Reporting Initiative**  
[www.globalreporting.org/Home/](http://www.globalreporting.org/Home/)

**Global Spine**  
[www.globalspine.com/](http://www.globalspine.com/)

**GreenBiz**  
[www.greenbiz.com/](http://www.greenbiz.com/)

## Resource Links Continued

### **Green Options**

[www.greenoptions.com/](http://www.greenoptions.com/)

### **Guiding Principles of Sustainable Design**

[www.nps.gov/dsc/dsgncnstr/gpsd/](http://www.nps.gov/dsc/dsgncnstr/gpsd/)

### **IDS A Ecodesign Section**

[www.idsa.org/whatsnew/sections/ecosection/](http://www.idsa.org/whatsnew/sections/ecosection/)

### **Institute for Sustainable Communication**

[www.sustaincom.org/](http://www.sustaincom.org/)

### **Live Earth**

[liveearth.org/](http://liveearth.org/)

### **Natural Capitalism**

[www.natcap.org/](http://www.natcap.org/)

### **The Natural Step**

[www.naturalstep.org/com/Start/](http://www.naturalstep.org/com/Start/)

### **Pollution Prevention Pays (P2Pays)**

[www.p2pays.org/](http://www.p2pays.org/)

### **Print Planet**

[www.printplanet.com/](http://www.printplanet.com/)

### **Printers' National Environmental Assistance Center**

[www.pneac.org/](http://www.pneac.org/)

### **Rainforest Alliance**

[www.rainforestalliance.org/](http://www.rainforestalliance.org/)

### **Renourish**

[www.re-nourish.com/](http://www.re-nourish.com/)

### **Rocky Mountain Institute**

[www.rmi.org/](http://www.rmi.org/)

### **SustainAbility**

[www.sustainability.com/](http://www.sustainability.com/)

### **United Nations Environment Programme**

[www.unep.org/](http://www.unep.org/)

### **United National Global Compact**

[www.unglobalcompact.org/](http://www.unglobalcompact.org/)

### **The World Business Council for Sustainable Development**

[www.wbcasd.ch/](http://www.wbcasd.ch/)

### **Viridian Design**

[www.viridiandesign.org/](http://www.viridiandesign.org/)

### **World Changing**

[www.worldchanging.com/](http://www.worldchanging.com/)

### **World Resources Institute**

[www.wri.org/](http://www.wri.org/)

### **World Watch**

[www.worldwatch.org/](http://www.worldwatch.org/)

## Endnotes

- 1 [www.mbdc.com/challenge/](http://www.mbdc.com/challenge/)
- 2 [www.epa.gov/epaoswer/osw/conserva/](http://www.epa.gov/epaoswer/osw/conserva/)
- 3 [www.gemi.org/docs/workgroup.htm](http://www.gemi.org/docs/workgroup.htm)
- 4 [www.environmentaldefense.org/pressrelease.cfm?ContentID=2861](http://www.environmentaldefense.org/pressrelease.cfm?ContentID=2861)
- 5 [www.nimahunter.com/reports.asp](http://www.nimahunter.com/reports.asp)
- 6 [www.epa.gov/ORD/NRMRL/lcaccess/why/ca.htm](http://www.epa.gov/ORD/NRMRL/lcaccess/why/ca.htm)
- 7 [www.environdec.com/](http://www.environdec.com/)
- 8 [www.conservatree.com](http://www.conservatree.com)
- 9 [www.environmentaldefense.org/alliance/](http://www.environmentaldefense.org/alliance/)
- 10 [www.woodsidiestute.org](http://www.woodsidiestute.org)
- 11 [www.fscus.org/](http://www.fscus.org/)
- 12 [www.svanen.nu/Eng/default.asp](http://www.svanen.nu/Eng/default.asp)
- 13 [www.uneptie.org/pc/sustain/lcinitiative/background.htm](http://www.uneptie.org/pc/sustain/lcinitiative/background.htm)
- 14 [www.epa.gov/opptintr/dfe/](http://www.epa.gov/opptintr/dfe/)
- 15 [www.conservatree.com/paper/Choose/commonvision.shtml](http://www.conservatree.com/paper/Choose/commonvision.shtml)
- 16 [www.epa.gov/epaoswer/osw/conserva/](http://www.epa.gov/epaoswer/osw/conserva/)
- 17 [www.svanen.nu/](http://www.svanen.nu/)
- 18 [www.beaconpress.co.uk/index.html](http://www.beaconpress.co.uk/index.html)
- 19 [www.climateregistry.org/](http://www.climateregistry.org/)
- 20 [www.idealjacobs.com/home\\_aboutij\\_welcome.html](http://www.idealjacobs.com/home_aboutij_welcome.html)
- 21 [www.csrwire.com/csr/home.mpl](http://www.csrwire.com/csr/home.mpl)
- 22 [www.naem.org/](http://www.naem.org/)
- 23 [www.napm.org/AboutISM/ComSocResp.cfm](http://www.napm.org/AboutISM/ComSocResp.cfm)
- 24 [www.design.philips.com/](http://www.design.philips.com/)

**About AIGA**

AIGA, the professional association for design, is the oldest and largest membership association for design professionals engaged in the discipline, practice and culture of designing. Its mission is to advance designing as a professional craft, strategic tool and vital cultural force.

The organization was founded as the American Institute of Graphic Arts in 1914. Since then, it has become the preeminent professional association for communication designers, broadly defined. In the past decade, designers have increasingly been involved in creating value for clients (whether public or business) through applying design thinking to complex problems, even when the outcomes may be more strategic, multidimensional and conceptual than what most would consider traditional communication design. AIGA now represents more than 19,000 designers of all disciplines through national activities and local programs developed by more than 55 chapters and 200 student groups.

AIGA supports the interests of professionals, educators and students who are engaged in the process of designing. The association is committed to stimulating thinking about design, demonstrating the value of design, and empowering success for designers throughout the arc of their careers.

Through conferences, competitions, exhibitions, publications and websites, AIGA inspires, educates and informs designers, helping them to realize their talents and to advocate the value of design among the media, the business community, governments and the public.



Adobe Systems, Inc. is the Official AIGA Sponsor for Design Solutions and is proud to be the Presenting Sponsor of the AIGA Design Business and Ethics series.

Together with AIGA, Adobe is creating innovative programs that give members a voice, nurture young designers and actively engage the creative community in dialogues about the important issues in the fields of design and technology.

The alliance between AIGA and Adobe is a long-term partnership dedicated to advancing design and the use of technology across creative industries as well as understanding and highlighting the impact of design on the economy and society.

Adobe has been an active participant in the design community over the past 25 years and looks forward to an ongoing conversation and dialogue – listening closely to designers and their needs.

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**DOMTAR EarthChoice®**  
High quality paper with a conscience

Domtar EarthChoice®, the Official AIGA Sponsor for Sustainable Design, is working with AIGA to foster sustainable thinking in design. Through its support of AIGA's Center for Sustainable Design, Domtar EarthChoice is helping to encourage designers to consider the effects that their general business practices, including paper and printing choices, have on a global scale. Through this partnership, Domtar EarthChoice and AIGA are committed to putting issues of sustainability at the forefront of design and social consciousnesses.

Domtar EarthChoice is the most extensive line of socially and environmentally responsible papers available, offering designers a tangible way to put their commitment to sustainability on paper. For more information, visit [www.domtarearthchoice.com](http://www.domtarearthchoice.com).

**“Print Design and Environmental Responsibility” is one topic in the AIGA Design Business and Ethics series, a range of publications dealing with ethical standards and practices for designers and their clients. New topics will be added to the series periodically. Additional copies can be downloaded from [www.aiga.org](http://www.aiga.org). For more information on solving communications design problems or hiring a professional designer, visit [www.aiga.org](http://www.aiga.org).**

**To join AIGA or to review the purpose and benefits of AIGA, visit [www.aiga.org](http://www.aiga.org).**

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