

THE JOURNAL OF
JVBL
VALUES BASED LEADERSHIP

Volume II | Issue I | Winter/Spring 2009

VALPARAISO UNIVERSITY

I N T H I S I S S U E :

- **Sustainability and the Bottom Line:
The Responsible Collusion of Economics,
Social Responsibility, and the Environment**
Review of *Mid Course Correction*
Ray C. Anderson, Founder and Chairman, Interface, Inc.
Atlanta, Georgia

- **Progress Toward Zero: The Climb to Sustainability**
Interview with Ray C. Anderson *and*
Inside Interface: Sustainability at Work
LaGrange, Georgia

- **Driving Sustainable Innovation: A Pioneer
for the 21st Century**
Verena Kloos, President, BMW Group DesignWorksUSA
Newbury Park, California

- **Climate 2030: A National Blueprint for a
Clean Energy Economy – Executive Summary**
Rachel Cleetus, Steven Clemmer, David Friedman
Union for Concerned Scientists
Cambridge, Massachusetts

- **Succeeding Through Collaborative Conflict:
The Paradoxical Lessons of Shared Leadership**
Rebecca Paulson, Habibullah Wajdi, Charles Manz
University of Massachusetts, Amherst

- ***Spiritual Enterprise: Doing Virtuous Business***
Dane Starbuck, J.D. (a review)
Indianapolis, Indiana



PEOPLE



PLANET



PROFIT

Valuing sustainability in today’s business landscape is not only the right thing to do, it has rapidly become imperative to success. By strengthening the three pillars of sustainability — **people, planet, and profit** — companies are significantly impacting their bottom lines.

For 150 years, Valparaiso University has delivered quality academic programs. Continuing this commitment to excellence, its MBA Plus Program emphasizes the importance of values-based leadership and environmental stewardship as crucial components of business success. This Fall, the University is taking its commitment to sustainability one step further.

Join a collaboration of leaders in sustainability and corporate responsibility for a first-of-its-kind, ground-breaking conference.

Creating Leadership with International Credibility

October 23 — 25, 2009

Valparaiso University Valparaiso, Indiana

TOPICS

- Business Case for Sustainability
- Global Reporting Initiative (GRI)
- Measuring, Managing, and Reporting a Company’s Economic, Environmental, and Social Performance
- Challenges of Reporting
- Reporting in the Utilities, Mining, and Public Agency Sectors
- Sustainability Strategy Planning

HIGHLIGHTS

- Influential Keynote Speakers
- GRI Certified Trainers from BrownFlynn Learning
- BrownFlynn Learning’s *The GRI Process* Course
- Certificate of Completion
- Dynamic Instruction
- Breakout Sessions
- World Café Format

For more information, contact Elizabeth Gingerich at Elizabeth.Gingerich@valpo.edu or call (219) 464-5044.



JOURNAL OF VALUES-BASED LEADERSHIP*

Winter/Spring 2009

Volume II, Issue 1

Editor-in-Chief:

Elizabeth Gingerich

Associate Professor, Business Law

Valparaiso University

College of Business Administration

(219) 464-5035

elizabeth.gingerich@valpo.edu

ISSN: 1948-0733 (online)

ISSN: pending (print)

©2009 Valparaiso University College of Business Administration

**The JVBL name and logo are proprietary trademarks. All rights reserved*

JVBL Mission Statement

The mission of the *Journal of Values-Based Leadership (JVBL)* is to promote ethical and moral leadership and behavior by serving as a forum for ideas and the sharing of “best practices.” It serves as a resource for business and institutional leaders, educators, and students concerned about values-based leadership. The *JVBL* defines values-based leadership to include topics involving ethics in leadership, moral considerations in business decision-making, stewardship of our natural environment, and spirituality as a source of motivation. The Journal strives to publish articles that are intellectually rigorous yet of practical use to leaders, teachers, and entrepreneurs. In this way, the *JVBL* serves as a high quality, international journal focused on converging the practical, theoretical, and applicable ideas and experiences of scholars and practitioners. The *JVBL* provides leaders with a tool of ongoing self-critique and development, teachers with a resource of pedagogical support in instructing values-based leadership to their students, and entrepreneurs with examples of conscientious decision-making to be emulated within their own business environs.

Call for Papers

The *JVBL* invites you to submit manuscripts for review and possible publication. The *JVBL* is dedicated to supporting people who seek to create more ethically and socially-responsive organizations through leadership and education. The Journal publishes articles that provide knowledge that is intellectually well-developed and useful in practice. The *JVBL* is a peer-reviewed journal available in both electronic and print fora. The readership includes business leaders, academics, and students interested in the study and analysis of critical issues affecting the practice of values-based leadership. The *JVBL* is dedicated to publishing articles related to:

1. Leading with integrity, credibility, and morality;
2. Creating ethical, values-based organizations;
3. Balancing the concerns of stakeholders, consumers, labor and management, and the environment; and
4. Teaching students how to understand their personal core values and how such values impact organizational performance.

In addition to articles that bridge theory and practice, the *JVBL* is interested in book reviews, case studies, personal experience articles, and pedagogical papers. If you have a manuscript idea that addresses facets of principled or values-based leadership, but you are uncertain as to its propriety to the mission of the *JVBL*, please contact its editor.

While manuscript length is not a major consideration in electronic publication, we encourage contributions of less than 20 pages of double-spaced narrative. As the *JVBL* is in electronic format, we especially encourage the submission of manuscripts which utilize visual text. Manuscripts will be acknowledged immediately upon receipt. All efforts will be made to complete the review process within 4-6 weeks.

Review Process

The *JVBL* seeks work that is clearly written and relevant to the Journal's central theme, yet imbued with analytical and intellectual excellence. In this respect, the editorial review board shall consist of both leading scholars and respected high-level business leaders.

All manuscripts undergo a two-stage review process:

- 1) The editor and/or his or her representative will conduct a cursory review to determine if the manuscript is appropriate for inclusion in the *JVBL* by examining the relevance of the topic and its appeal to the Journal's target readership. The editor may: a) reject the manuscript outright, b) request submission of a revised manuscript which will then be subject to a comprehensive in-house review, or c) forward the manuscript for review pursuant to the provisions of the following paragraph.
- 2) The editor will send the manuscript to three reviewers consisting of at least one scholar and one practitioner. The third reviewer shall be chosen at the editor's discretion, depending upon the nature of the manuscript. Once reviews are returned, the editor may: a) accept the manuscript without modification, b) accept the document with specific changes noted, c) offer the author(s) the opportunity to revise and resubmit the manuscript in response to the reviewers' and editors' comments and notations, or d) reject the manuscript. To be considered publishable, the manuscript must be accepted by at least one of each type of reviewer.

Privacy Notice

The material contained in this Journal is protected by copyright and may be replicated only in a manner that is consistent with *JVBL*'s mission, goals, and activities. Commercial replication is strictly prohibited. Prohibited uses include but are not limited to the copying, renting, leasing, selling, distributing, transmitting, or transfer of all or any portions of the material, or use for any other commercial and/or solicitation purposes of any type, or in connection with any action taken that violates the *JVBL*'s copyright. The material is not to be used for mass communications without express written consent, but may be downloaded for purposes of individual member use and communication. All other uses are prohibited without prior written authorization from the *JVBL*. For any information concerning the appropriate use of the material, please contact *JVBL* editor Elizabeth Gingerich at 1.219.464.5044.

Postal Information

The *Journal of Values-Based Leadership* is published on-line biannually in Winter/Spring and Summer/Fall by the College of Business Administration, Valparaiso University, 1909 Chapel Drive, Valparaiso, Indiana 46383. To receive a bound hard copy of any issue, please remit the sum of \$20.00 per copy to the Valparaiso College of Business Administration – *JVBL*, and indicate which issue and the quantity of copies desired together with your current mailing address and telephone number.

For additional information, please visit www.valpo.edu/cba/jvbl.

To report a change of address, contact Valparaiso University College of Business Administration, 1909 Chapel Drive, Valparaiso, Indiana 46383, 1.219.464.5044 or jvbl@valpo.edu.

Article Reprint Permission

No article may be republished in whole or in part without the written permission of the publisher. Send requests to reprint in writing to Editor Elizabeth Gingerich at 1909 Chapel Drive, Room 207, Valparaiso, Indiana 46383, jvbl@valpo.edu, 1.219.464.5044, fax: 1.219.464.5789.

Please remember that existing artwork or images that you may want to include in a new work may be protected under copyright law. The unauthorized incorporation of such material into your new work could be a violation of the rights of the copyright owner. Please be sure to obtain any permission required from the copyright owner.

Disclaimer

Articles, reports, and surveys contained herein reflect the views of the individual authors and, unless expressly so indicated in the text, do not necessarily represent the position of the Valparaiso University College of Business Administration.

Letter from the Editor

"Once you become environmentally conscious, there is no going back."

This philosophical proclamation was made by author Ray C. Anderson, Founder and Chairman of Interface, Inc., during a November 2008 interview. Mr. Anderson has been touted as the "greenest CEO on earth." He has transformed the business he founded in 1973 from a "plundering, global, billion-dollar carpet business" into a company whose mission is zero environmental impact by 2020.

With the catch-phrases of "going green" and "sustainability" permeating the airwaves, several queries arise. How much of this is banal, opportunistic marketing? Are there serious endeavors being implemented to really reduce greenhouse gases to preserve the earth's eco-systems and the biodiversity needed to maintain interdependent life systems?

And how do these environmental objectives square with "values-based" leadership? Are they synonymous, interconnected, or subject to segregation as a distinguishable subset of ethics? Querying a colleague on this point, my question was answered by yet another question: "How can you be a steward of environmental resources without being ethical – and ethical without being eco-friendly? For to be right with one, you must be right with the other."

Therefore, building upon this foundation, values-based leadership would naturally command the business entrepreneur to make the important differentiation between "shareholder" and "stakeholder." While a "shareholder" connotes one holding a financial interest in an enterprise, a "stakeholder" represents any person, group, government, country, ecosystem, or other species affected by the goods or services produced by that business.

No longer can a business remain viable by simply pursuing the "bottom line." While that singular point of focus ignited the Industrial Revolution – producing many of the inventions and innovations enjoyed today – little was known then about the cost being borne by the planet in the process. In an effort to make industry more sustainable and accountable, emphasis has been shifted to what is more commonly known as the "Second Industrial Revolution" or the "Triple Bottom Line." Responsibilities to the stakeholder are now measured by economic, environmental, and social factors. Simply stated, no matter how much revenue is produced by a commercial entity, if the health of the planet is compromised, of what practical significance is monetary wealth?

Values-based leadership requires a continuous assessment and responsible management of the consequences of a business's operations. Therefore, this issue of the *Journal of Values-Based Leadership* is primarily dedicated to businesses, organizations, and individuals leading the way in providing world populations with the products and services needed in a sustainable way.

The first article is segregated into three parts: (1) an examination of the reasons leading to the restructuring of Interface, Inc. as explained in Ray Anderson's 1998 book, "Mid-Course

Correction;” (2) an interview with Chairman Anderson at Interface headquarters in Atlanta, Georgia regarding goals for complete sustainability of company operations by 2020; and (3) lessons learned and reflections gleaned from a recent tour of Interface’s facilities.

Continuing with sustainability trends in business, BMW, known for its well- engineered vehicles, has also reviewed the efficacy of its designs and base materials incorporated into its products. In addition to the production of new models of vehicles with better mileage, the company is designing a plethora of products which combine eco-friendliness with aesthetics. Leading this vision-turned-reality is BMW Group DesignWorksUSA, confidently and competently led by the company’s president, Verena Kloos.

Continuing with the theme of environmental awareness in commerce and industry is the Washington, D.C. leading policy former – the Union of Concerned Scientists (UCS). As medical researchers were primarily credited with the awakening of both the public as well as the nation’s lawmakers to the dangers of tobacco use, it is the scientists who have unrelentingly opined that business can no longer be done as usual without assessing the costs to the health of the planet. While certain industries are busily attempting to re-tool to meet the demands of the 21st century, UCS has doggedly reminded our representatives of the very prominent part they play in fashioning policies that create jobs, develop alternate sources of cleaner, renewable, energy, and stimulate industrial creativity to remain competitive in the world marketplace.

Charles Manz and colleagues return to the JVBL with a submission addressing the need for shared leadership in a world that poses new and serious challenges. It is the dynamic of the collaboration – without necessarily losing the individual perspective – that is needed to make the changes the industrial world is demanding.

Lastly, *Spiritual Enterprise: Doing Virtuous Business*, is reviewed by critic Dane Starbuck. The book’s author, Theodore Roosevelt Malloch is credited for not rehashing the corporate scandals of recent years which have already become inculcated in the public’s mind. Rather Starbuck describes that Malloch takes a novel approach to identifying those business entities which have done well through the continual practice of virtues and recognition of a transcendent being.

— *Elizabeth Reiner Gingerich, J.D., Editor*

CONTENTS

Articles

- 9 Sustainability and the Bottom Line: The Responsible Collusion of Economics, Social Responsibility, and the Environment**
A Review of Mid-Course Correction
Ray C. Anderson, Author

The Interface model has become the paradigm of sustainable manufacturing in a world where there is dwindling disagreement as to the debilitating effects of expanding landfills and increasing CO2 emissions, all of which adversely affect ecosystems and human health. In *Mid-Course Correction*, CEO Anderson examines the troubled past of Interface and its firm commitment to righting these wrongs while examining ways to actually begin a restorative process.

- 17 Progress Toward Zero: The Climb to Sustainability**
Interview with Ray Anderson

Overhauling a wasteful and polluting company takes insight, knowledge, commitment, and courage. In this quest to achieve total sustainability by producing its product with no carbon emissions or landfill matter, Interface is well on its way to its 2020 goals.

- 25 Plant Tour and Meeting with Members of Interface's Sustainability Team: December 16, 2009**

Simply stated, business does not work without the infusion of ethics. While "ethics" can be interpreted in a relative manner, there is no dispute within the scientific community as to the deleterious effects of unrestricted manufacturing processes and the role of environmental factors in generating health crises. The "cradle to grave" designation – once descriptive of wasteful industrial practices – is capable of evolving into a "cradle to cradle" approach, triggering a newfound common sense thinking demonstrated by both producers and consumers alike.

The Interface experience is demonstrating this evolutionary process.

- 31 Driving Sustainable Innovation: A Pioneer for the 21st Century**
Verena Kloos, President, BMW Group DesignWorksUSA

An interesting look into one of the premier automobile manufacturers and the design team behind its emergence as a force – not only in the development of new and more efficient vehicles – but in the application of these eco-centered guidelines to other consumer products as well. Verena Kloos provides a rare insight into the role of not just a female officer in an industry largely dominated by men, but of a leader committed to embracing change where demanded.

- 39 **Climate 2030: A National Blueprint for a Clean Energy Economy – Executive Summary**
Rachel Cleetus, Steven Clemmer, David Friedman
Union for Concerned Scientists

Courage of conviction, unyielding stamina to underscore the dangerous realities of unchanging lifestyle habits and doing business as usual in today's world, and unfettered tenacity necessary to build an ever-growing network of dedicated individuals and scientists struggling to express the need for public awareness and governmental action, describes this nationwide group. The Union of Concerned Scientists, primarily headquartered in Cambridge, Massachusetts, presents its forecast for 2030 – complete with the recipe needed to be undertaken for individuals and businesses to both survive and thrive.

- 53 **Succeeding Through Collaborative Conflict: The Paradoxical Lessons of Shared Leadership**
Rebecca Paulson, Habibullah Wajdi, Dr. Charles C. Manz,
University of Massachusetts, Amherst

Facing serious challenges that may dictate the complete overhaul of business mindset and industry must be directed by sound leadership. But is it possible to lead alone or is collaboration necessary to confront these challenges? These authors tackle the well-known idiom “two heads are better than one” and extract from its meaning the inherent dichotomy in shared leadership, mediating differences of direction, and preserving the integrity of individual perspective in this new age.

- 69 ***Spiritual Enterprise: Doing Virtuous Business***
Dane Starbuck, J.D. (a book review)

While textbooks and other non-fiction works concerning modern-day business practices are replete with detailing the endless stream of corporate scandals, reviewer Starbuck looks deeply into this writing of T.R. Malloch and finds something quite hopeful and inspiring: the plethora of enterprises that do follow virtuous practices – and succeed.

I. THE BOOK



If we're successful, we'll spend the rest of our days harvesting yesteryear's carpets and other petrochemically-derived products, and recycling them into new materials; and converting sunlight into energy; with zero scrap going to the landfill and zero emissions into the ecosystem. And we'll be doing well...very well...by doing good. That's the vision.

— Ray C. Anderson

RAY C. ANDERSON, FOUNDER AND CHAIRMAN, INTERFACE, INC., ATLANTA, GA

SUSTAINABILITY AND THE BOTTOM LINE: THE RESPONSIBLE COLLUSION OF ECONOMICS, SOCIAL RESPONSIBILITY, AND THE ENVIRONMENT

Introduction

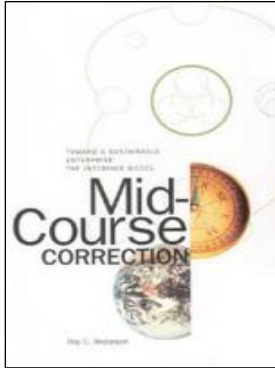
The advance of technological changes over the last several decades signaled greater comfort for both the homeowner and the business entrepreneur. In 1973, Ray C. Anderson founded Interface, Inc., which has become a billion-dollar corporation, and the world's largest producer of modular floor coverings. In 1995, Interface, an established, highly profitable business, together with its founder, unwittingly and eventually intentionally, became subject to strict self-scrutiny as pressures of ecological disaster could no longer be ignored. While the company had generated thousands of jobs, was fiscally sound, and producing useful products in an international marketplace, environmental consequences of these successes became a threat which could no longer be ignored. While other business leaders might not be concerned with the negative ramifications on the planet's eco-structure, Ray Anderson jettisoned the notion of spending his remaining days on earth, living in a sheltered zone of comfort and accomplishment. Instead he experienced an inner conflict of guilt and remorse through re-examining the nature of his business and his leadership role in that business. He literally effected the beginnings on a mid-course correction, moving from earth plunderer to its advocate and protector.

The following is a synopsis of *Mid-Course Correction*, and the dates and figures used refer to that time period.

Anderson, Ray C. *Mid-Course Correction: Toward a Sustainable Enterprise: The Interface Model*. White River Junction, Vermont: Chelsea Green Publishing Company, 1998).

Mid-Course Correction

In 1994, Anderson was asked to present his company's environmental policy. The problem?



There was none. It was also at this time that Anderson stumbled upon Paul Hawkin's *The Ecology of Commerce* and was particularly captivated by the chapter, "The Death of Birth." Feeling as if he had been speared in the chest, Anderson made a commitment to reversing the direction of his company. He understood that all business successes bore a price — and that price was ultimately being borne by the planet, its inhabitants, and its symbiotic ecosystems. Specifically, at the time of authoring *Mid-Course Correction*, Anderson discovered a particularly troublesome yet irrefutable fact about the business he had begun in 1973: 800 million pounds of non-renewable material extracted from the earth was required to generate 802 million dollars worth of products.

Instead of emphasizing Interface's successes in providing valuable goods to the public and employment opportunities to over 5,000 people and their dependents at that time, Anderson acknowledged that the perpetuation of this justification of "business as usual" could never obfuscate the real truth of conducting business in this manner. He realized that changes had to be made and that Interface had to be re-tooled. Retreat was never an option.

With this epiphany, Anderson did not eschew a profit motive in his business operations; he simply could not continue to plunder the earth, leaving behind a legacy of environmental destruction for future generations. Instead, to determine whether there was a place for his product on the earth which did not threaten its very existence, he became determined to rebuild a profitable business premised upon environmental respect and stewardship. Anything short of this goal would continue a process of unregulated thievery allowing people to take what was not theirs without regard for the consequences.

A basic tenet of criminal justice is that being caught with another's property without the owner's permission is unlawful and must be punished accordingly to not only rebuke the wrongdoer, but to prevent similar behaviors from reoccurring. But since the Industrial Revolution marked by decades of innovation eclipsing the first half of the twentieth century, the plundering of the earth's resources to generate profit has largely been overlooked or conveniently ignored. Fostering employment opportunities and spearheading innovation justified the means. With new awareness of the price being paid for increasing individual comfort, the business person can no longer feign ignorance with respect to the decline in the earth's interdependent eco-systems resulting from polluting business practices. With truly ethical leadership, the conscience should grab hold of the soul and command instant, pervasive, and restorative action. The re-tooling process of Interface had begun, stimulating the development of a new way of thinking in a formidable way.

Navigating the Summit of Sustainability

The task of reversing the “plundering” process would become even more daunting for Anderson when he went a significant step further with his pledge to give back to the earth more than what Interface was taking from it. But in doing so, Anderson was keenly aware about the concerns of third parties who were also Interface stakeholders. Would the company’s shareholders object to this plan of restitution and restoration? Would the employees at Interface begin to doubt Anderson’s continued leadership and thus the security of their own jobs? Would the quality of the products manufactured by the company be compromised?

While a values-based leader cannot be ignorant of other stakeholder concerns, intimidation could easily lead to forfeiture of one’s convictions, paving the way for a full retreat and the surrender to dangerous, continued conformity to old standards. Rather, a leader who is armed with the truth and fueled by an inner passion to correct the wrongs of the past is imbued with the necessary fortitude to reason with other stakeholders. Anderson, as Interface CEO at the time and now future shaper of sustainable business, acknowledged that not everyone would be pleased at this new direction – at least in the short-run – but by simply highlighting the enormity and gravity of the destruction of the biosphere, short-term gains would be shadowed by long-term product sustainability. Anderson’s conviction of bringing to light the damage already committed to earth’s biodiversity only buttressed his goal to make Interface the first corporation to achieve a zero negative impact upon the earth. The goal was lofty as this determination of biological harmony would not simply cover the manufacturing process of Interface carpeting, but would extend to the company’s suppliers all the way through to the product’s distribution chain. From the time a shipment of materials would leave the headquarters of another company destined for Interface and from the moment an Interface employee would make his or way to company headquarters to begin a new shift, the planet would not be harmed. Similarly, upon the completion of the product, distribution would reach its destination points again without negative impact to the earth.

For Anderson, there was simply no going back. With company technicians, engineers, scientists, and the Interface workforce all equally imbued with similar purpose, the goals of mandatory remedial measures would be accomplished. Thus, with such an unshakeable conviction, the company embarked upon a course of sustainability while remarkably generating profit, preserving company jobs, and actually improving the quality of its products.

Equipped with a life characterized by renewed hope and purpose, Anderson had no intention of quarantining his new outlook. He has freely shared his newfound knowledge with other beleaguered companies (i.e., other profitable plunderers). This passion of remedial action without the forfeiture of profit-making had become infectious. The workers at Interface also share in this commitment to zero mission by knowing that their work is no longer simply defined as a five day a week, 9 to 5 job. Instead, garnering a paycheck now incorporates a sense of mission – one of working to save the world while paying the bills. With the Interface model, engaging the mind, stimulating creativity, and sharing ideas have successfully produced a greatly motivated workforce. This infusion of ethics into the workplace and the generation of pride in the manner of how business is conducted have not only resulted in financial rewards for the entire workforce of Interface, but in the spiritual strengthening of the company’s satisfied customers, vendors, and employees.

Team Commitment

Interface has coined an acronym for this combined effort and common vision: Quality Utilizing Employees and Teamwork (QUEST). The presence of dedicated workforce members motivated by a sense of newfound worth has been the key ingredient in the company's achievement of the first of its many restorative goals; within the first 3½ years of the company's redirection, it was able to reduce its total waste by 40%, generating a savings of \$67 million (now more than \$400 million cumulatively).

Interface had once thrived on the use of petrochemical, manmade materials. By the mid-1990s, the company embraced a firm commitment to recycle, reuse, and recapture waste materials not only generated by Interface, but by its competitors as well. In this manner, Interface could continue its business operations in good conscience without ever extracting another drop of oil from the earth. Anderson's vision, and the reality of an ever-evolving multinational corporation, continues to bear fruit through material recapture and reuse. At the time of the release of *Mid-Course Correction*, Interface had successfully reduced greenhouse gas emissions by 71% in absolute tonnage and many of its operations are now being powered through solar, wind, and methane gas recapture — all renewable sources of energy.

Leaving a Responsible Legacy

As the Interface model has become the paradigm of sustainable manufacturing, there is dwindling disagreement in today's world as to the debilitating effects of expanding landfills and increasing CO2 emissions, all of which adversely affect ecosystems and human health. In 2007, there were more than 10,000 landfills in the United States, accepting waste from across the borders and emitting non-recaptured and hazardous methane gases. The world is experiencing an epidemic of cancers and lethal, indefinable infections, viruses, and respiratory problems never before experienced in history. If the original goals of our innovative forbearers were dedicated to improving lifestyle and ameliorating discomfort, what do we say to the parents of a 4-year-old diagnosed with a cancerous neuroblastoma of the brain? What do we say to the teenager who just lost his 44 year-old mother to metastatic breast cancer, especially when the family lacked any history of potential risk factors? Is this what the pioneers of the first Industrial Revolution envisioned in their quest for progress in the business sector?

Simply stated, business does not work without the infusion of ethics. While "ethics" can be interpreted in a relative manner, there is no dispute within the scientific community as to the deleterious effects of unrestricted manufacturing processes and the role of environmental factors in generating health crises. The "cradle to grave" designation — once descriptive of wasteful industrial practices — is capable of evolving into a "cradle to cradle" approach, triggering a newfound common sense thinking demonstrated by both producers and consumers alike. The Interface experience has demonstrated this success.

Interface continues to pursue a Mission Zero™ quest for complete sustainability in its business operations. Interface has successfully reduced the amount of waste material formerly routed to landfills by 175 million pounds through its program, ReEntry.™ The consumption of water — deemed the world's new "oil" — used in Interface's modular carpet operations has been reduced by 74%. Energy consumption in the company's business

operations has decreased by 44% while increasing renewable energy worldwide to 28% of total energy. The company is successfully moving to its ultimate goal of achieving “closed-loop recycling” as demonstrated by the implementation of its sustainable programs of recycling plastics and discarded carpet in the manufacture of new floor coverings. By utilizing closed-loop practices, no waste products or toxic pollutants will be released into the earth’s atmosphere, waterways, or landfills.

God’s Currency:

“No longer can our use of ‘God’s currency’ go unchecked. We must carefully measure the use of earth’s resources to produce manmade products.”

— Ray C. Anderson

Within the last several years, Anderson has devised a term which he applies to the measurement of using the earth’s resources to produce manmade products: EcoMetrics. This is what he regards as “God’s currency.” Before the company’s retooling, one product unit produced at Interface required 10 pounds of a petrochemically-derived, nonrenewable material – the end products of which are deadly toxins which can lead to deleterious health effects, resource depletion, and habitat destruction.

The idiom “haste makes waste” has never lost its impact and importance, especially in advancing industrial interests; now its consequences must be taken more seriously more so than ever before. The rush toward profit-making and the manufacture of a greater variety of products reminiscent of the first Industrial Revolution should be closely and comprehensively studied. The entire nature of a company’s research and development department must be re-examined. As new and purportedly better products are being created, the particles of the creation must be examined – not just for their inclusion into the new product – but for their particular impact upon the environment. Governmental regulators must exercise restraint and refrain from acquiescing so readily to the demands of the corporate world for both new product approval and widespread dissemination. The implications of wasteful environmental impact, first brought to the attention of the public through books such as Daniel Quinn’s *Ishmael*, Rachel Carson’s *Silent Spring*, and Paul Hawkin’s *The Ecology of Commerce*, all demonstrate how a new product or innovation must be thoroughly assessed for its benefit to humankind. Any negative impact must be thoroughly weighed *before* the stamp of approval is given.

Call to Action

Anderson has made it clearly known through his books, articles, speeches, and interviews that the change in the manner of how Interface was doing business emanated from an epiphanal realization experienced after reading *The Ecology of Commerce*. One book exposed certain truths that would change his mindset forever. He has noted that he was particularly struck with the facts of unchecked consumption trends and unbridled and unregulated industrial practices. Upon discovering that approximately 25 billion tons of topsoil are being lost on an annual basis while global population rates are skyrocketing, a collective call to action was imperative. The rapid increase of the number of endangered

species in serious threat of extinction was nothing short of shocking. And now, while newer technologies are being invented – and in some instances re-introduced to the public – ice caps are melting at a faster than predicted rate and clean water deposits are evaporating or being further abused and polluted.

Millions of years have witnessed the evolution of the species and the creation of the splendor and richness of the planet. Early mankind lived in tandem with nature, respecting its gifts and powers. However, over a course of a very short period of time, industry and mass consumerism have thwarted evolution and triggered a destructive path of devolution. The litany of environmental catastrophes – the destruction of the rain forests, unbridled emissions of greenhouse gases, pollution of fresh water depositories, the withering away of a variety of trees, and the depletion of wetlands – all demand new ethical leadership. Business leaders who do not heed the warnings are disregarding the alarming diminished capacity of the planet. As Anderson opines, who will lead the Second Revolution, armed with these truths and committed to restructuring business operations? In the past, mankind was expected by the Church to conquer and rule over nature, but the clergy today has not posited the answer to real change. And since governmental representatives have demonstrated a reluctance or incompetence to create change, it is clearly up to business and industry leaders to redefine how commerce should be conducted.

Effective Leadership

According to Anderson, true leadership must redefine wealth, prosperity and economic growth. Pursuit of these goals without due deference of the earth's resources signals inevitable ecological suicide. These warnings do not stem from

“EVEN WHEN IT MEANS LEAVING ONE’S OWN COMFORT ZONE, TRUE LEADERS WILL BE ‘DOING WELL BY DOING GOOD.’”

– RAY C. ANDERSON

alarmists or eco-conspiracies; the need to create a new mindset is simply a matter of respect, good purpose, and simple common sense. Effective leadership must also effectively engage the workforce. Instead of perpetuating the inimical tension between labor and management, all employees must be viewed and treated as potential contributors to sustainability solutions. True leaders must not shy away from challenges and seemingly unnavigable obstacles, but must rather seize new opportunities for change.

While “doing good” focuses upon the responsible production of a useful product without further usurping Earth’s resources, Interface’s “doing good” has resulted in the company “doing well” fiscally. Generating a profit will not come from mere “green washing,” but emanates from genuinely gaining the public’s confidence that the manufacturer is truly producing a sustainable product. Resource-efficient companies are attracting not only favorable public opinion and investment opportunities, but are also wooing suppliers and vendors. Investors have moved to the adoption of a triple bottom line measure of business success, employing financial, ecological, and socially responsible delimiters. Ostensibly, it would be foolish to surmise that the individual investor is no longer interested in making a quick profit. However, with the revelation of our dying world, more and more investors are demanding socially responsible investments and redefining the products that are necessary for comfortable living. Frivolous products and throwaways must give way to items that assist our health and do not deplete the earth’s resources or thwart resource efficiency. Any other

mindset threatens the existence of humankind. As Anderson firmly believes, there is no alternative but to forge a new way of defining consumption and discarding the once entrenched principle of the unlimited natural resources and technological panaceas.

The business person who does not heed the call will be eliminated through market forces and natural social responsibilities. The unresponsive business will become the wasteful and inefficient competitor. By leading business and industry responsibly into this second Industrial Revolution, the nation's GDP will be bolstered in line with the decreased number of environmental clean-ups, new and resistant diseases, and an effective addressing of natural catastrophes. Efficient, closed-loop production and the redefinition of human consumption needs will naturally trigger the elimination of industrial and human short-sightedness.

And what type of person will lead this revamped, secondary revolution? Anderson answers this query by emphasizing that wealth and reputation are not necessary qualifications or characteristics. Passion, motivation fueled by notion of a greater purpose, the knowledge that "Davids" really do conquer "Goliaths," will dictate our next generation of business and industrial leaders. Before this occurs, however, business and industry must first understand, achieve, and promote the influence of the concept of sustainability. Employing newfound knowledge is certainly a bold first step; sharing this knowledge is a dual responsibility. Success will be achieved by truly living for a higher purpose and for one another.

Anderson concludes by stating that when hope is translated into concrete action effecting real change, change breeds excitement and creation of newfound purpose. This is the values-based leadership demanded of our global village.

Anderson Biography

Ray C. Anderson, Founder and Chairman (CEO for the first 28 years) of Interface, Inc. — the world’s largest manufacturer of modular floor coverings and a billion-dollar company — has been named “the greenest chief executive in America.” Anderson, an industrial engineer and honors graduate of the Georgia Institute of Technology, currently holds eight honorary doctorate degrees. In 1973, he established Interface after working at various positions for Deering-Millken and Callaway Mills. Over two decades later, Anderson made a commitment to steer his company towards a zero emission manufacturing and processing endeavor to eliminate the negative impact upon the environment by year 2020, primarily through the use of new sources of energy and materials.

Anderson has served as a prominent commentator for several award-winning documentaries, including Leonardo DiCaprio’s “The 11th Hour,” the internationally-acclaimed “The Corporation,” and most recently, the 2007 Greenbuild Film Festival winner, “Trashed.” In 2007, he was named one of *Time* magazine’s “Heroes of the Environment” and served as co-chair of the President’s Council on Sustainable Development during President Clinton’s administration. He has authored several books including “Face It,” “The Journey from There to Here: The Eco Odyssey of a CEO,” and “Mid-Course Correction: Toward a Sustainable Enterprise – The Interface Model.” Anderson has completed a new book tracking the company’s pursuit of complete sustainability. Anderson’s books all chronicle his commitment to reassessing and reorganizing the operations of Interface to achieve a zero impact upon the environment and to ultimately move toward engaging in restorative measures.

Recognition of Anderson’s efforts to generate ideas for sustainable commerce have emanated from business, environmental and governmental organizations including the U.S. Green Building Council, the Southern Institute for Business and Professional Ethics, Harvard Business School Alumni, and the National Wildlife Federation. He was named Entrepreneur of the Year in 1996 by Forbes Magazine and Ernst & Young. In 2006, Interface was listed as #1 in global sustainability by GlobeScan. Anderson has been awarded the George and Cynthia Mitchell International Prize for Sustainable Development (selection by the National Academy of Sciences), the Civic Ventures’ Purpose Prize, Auburn University’s International Quality of Life Award, and Global Green’s Inaugural Millennium Award.

Anderson’s mid-course change in direction demonstrates his unique ability to embrace environmental preservation efforts without forfeiting profit-making. While the 20th century Industrial Revolution generated dramatic growth, it did so with insidious consequences. Anderson has made the bold choice “to pioneer the next Industrial Revolution that is kinder and gentler to the earth,” serving as an example to numerous business organizations.

II. THE INTERVIEW

Progress Toward Zero: The Climb to Sustainability



Source: <http://www.interfaceglobal.com/Sustainability/Progress-to-Zero.aspx>

- Marker 1:** Interface cut waste sent to landfills by more than two-thirds while continuing to increase production.
- Marker 2:** Approximately \$405 million in cumulative avoided waste cost from 1995 to 2008.
- Marker 3:** Interface diverted over 100 million pounds of materials from landfills.
- Marker 4:** Interface reduced net greenhouse gas emissions by more than 71% through efficiency, process changes, and purchasing renewable energy and offsets.
- Marker 5:** Interface has sold more than 83 million square yards of its climate neutral carpet product.
- Marker 6:** Eight of Interface's ten facilities operate with 100% renewable electricity.
- Marker 7:** Through the implementation of energy efficiency projects and changes in manufacturing processes, Interface has reduced the total energy intensity by 44% since 1996.
- Marker 8:** Water intake per unit of production in modular carpet manufacturing facilities is down 74% from 1996 levels.
- Marker 9:** Over 24% of raw materials used in Interface carpet are recycled and bio-based materials in 2008.
- Marker 10:** Since 1997, Interface has planted almost 98 thousand trees to reduce the impact of 191 million business-related air miles and over 10 thousand trees for the Cool CO₂mmute program.
- Marker 11:** Interface contributed in excess of \$750,000 to external organizations in 2008.
- Marker 12:** Interface associates volunteered more than 15,000 hours in community activities in 2008.
- Marker 13:** Interface associates have delivered sustainability-related educational speeches to millions of stakeholders.

"If that product cannot be made sustainable, we have no business making that product. For that matter, neither does anyone else."

- Ray C. Anderson

Background

The *JVBL* editorial staff had the good fortune to interview Mr. Anderson on November 22, 2008, to discover the current status of Interface's quest for zero emissions in 2020 and to uncover the sources of one person's motivation, persistence, energy, and dedication in restructuring an already profitable enterprise. The interview was followed by an on-site visit of Interface's warehouses, factories, and main headquarters in and around the Atlanta, GA metropolitan area in mid-December, 2008.

Interview, November 22, 2008

Q: Mr. Anderson, you are truly a pioneer and innovator and the Interface model appears to be the proverbial pebble in the pond producing a worldwide ripple effect in the retooling of commerce and industry. Speaking personally, I truly believe that it only takes one person to affect substantial change for the betterment of the world.

In the mid-1990s, you formulated the seven stages of sustainability for Interface and projected zero emissions by 2020. Your company's most recent programs demonstrate a succession of eco-friendly, innovative practices, including the "Evergreen Lease" program, the new Flor Products, and the trademarked Bentley-Prince innovations. With your 2020 goal of complete sustainability, where is Interface presently?

The different metrics of Interface that you mentioned are very different, sort of like peaches and tomatoes, but when you put it all together, we are somewhere more than half-way, I think. For example, with respect to our green house gas emissions, we are down a net of 83% in greenhouse gas intensity relative to sales.

Q: So have you approached the restorative process yet?

We are not counting renewable energy credits, not yet, but if we were, we would be at 99%. With offsets, we are creating climate-neutral products.

Q: Unlike companies that only measure their environmental successes by evaluating activities at just 1 stage — for example, manufacturing, assembly, distribution, Global Reporting Initiative, a United Nations world protocol voluntary reporting system based in Amsterdam, reviews a wider array of factors: environmental, social, and fiscal. So when we assess the activities of your vendors, your transporters, and other third parties, working on your behalf but outside the factory proper, where would you slot Interface in your sustainability summit?

The reduction in greenhouse gases is 71% in absolute tonnage. Interface is two-thirds larger over the same span of time, from 1996-2008. So 71% really translates into 82 or 83% in reduction of carbon intensity. With respect to the water usage, we're at negative 74 - that number has changed a little bit from the previously reported figure of -80. The material diverted from landfills is now 175 million pounds, 87,500 tons. The fossil energy consumption is down 60% per unit of production and renewable energy is now at 28% of total. And renewable materials — that includes both recycled and bio-based — is somewhere north of 24% has been increasing rapidly. With respect to a couple other

metrics, we've shut down a third of our smokestacks — essentially obviated them — and 71% of our effluent pipes have been abandoned, obviated by process changes.

Q: What types of process changes allow you to eliminate these things?

We've significantly eliminated wet processing — the liquid effluent. Waste reduction amounts to about 50% working against our definition of perfection.

Q: Has the Evergreen Lease Program been successful?

Actually, this is not a new venture — this is one of the first things we did, but it was way ahead of its time. And in fact the economics don't yet quite favor it, but it might just come around. As the size of recycled content increases and the price of virgin material go up, the advantage is to lease. But we're not there yet. So the lease has had very limited success. As we are getting into the \$140 - \$150 range for oil, we were on the verge of reviving the Evergreen Lease. But now that oil prices have dropped back...we will just wait and see.

Q: In terms of recycling, when you receive calls from various businesses who are either remodeling or leveling buildings containing Interface-made carpet, what factors will influence your decision to retrieve this material?

We are in the market right now for recycled material. We are taking back not only our old products, but our competitors' old products and those of non-competitors.

Q: With respect to your recycling program, do you draw the line as to how many businesses act as participants in this program? Is there a limit on quantity that Interface can handle?

We focus on the commercial and institutional end rather than residential. It's probably not feasible unless you have a dealer who is willing to accumulate carpet from a lot of houses with carpet that needs to be taken up all to be sent back at once. We tend to deal with larger installations, commercial and institutional. Essentially, this is our Entry 2.0 program; it is our reverse logistics effort to get the stuff back. And we are in the market for it. The most recent technical breakthrough we've made is in working out the recycling of the nylon face. We had to send it back into the market for such usage as engineered plastics but now we're actually getting it back into the fabric and from the fabric back into products. We have closed the loop on nylon now which is a big breakthrough. Over 24% of our raw material is recycled or bio-based and that figure is increasing rapidly. The "increasingly rapidly" aspect of that is coming from the nylon side.

Q: Do you have somewhat of a mixed view on the price of gasoline prices and petroleum products going down, maybe it's a temporary decrease, but it seems like there is a corollary of people's perceptions and recycling, thinking about what they're doing and the price of gas, because all of a sudden everyone's hopping in their cars once again. I was happy to see my students walking and riding bikes, sloughing cars, but I was wondering with your industry at such a higher level, if you were seeing an actual reduction in the number of contacts or calls you've been receiving as to recyclable products because they just feel that gas is going down, oil is going down, or are these programs steady? Are these ideas taking root and growing, regardless of the economy?

The price of virgin materials in the long run has to go up. So the relative advantage of recycled material will increase over time, and today we see this as a competitive advantage, actually the higher the cost of oil goes, and the higher the cost of virgin materials, the greater our relative advantage. We are quite sanguine with \$140 a barrel, and looking for it to go to \$200.

Q: When I peruse the resources available on the Mission Zero (<http://missionzero.org/>) website, your pledge of complete sustainability for Interface by 2020, and the warnings of Paul Hawkin's "The Ecology of Commerce" regarding extinction of species and compromised eco-systems, I have doubts that meaningful change required to reverse global climate is within reach. And knowing — according to the most recent statistics — that while the United States comprises 5% of the world's population but uses 25% of the world's non-renewable sources of energy, it would seemingly appear that meaningful change is not within our grasp. We have all had it very easy and acclimated to a rather comfortable lifestyle. Do you really believe that it's possible to "unspoil the child" in time?

I think that the mind shift has already begun and like Deepak Chopra says, everyone's doing the best they can given their level of awareness. It's all about changing the level of awareness and that is happening. The spiking oil prices pushed that along. For the people who will relapse into old ways, I don't know. If they do, I think it's short-lived because I think we're past it.

Q: There is some angst generated when "people lapse into their own ways." Just to give you an idea of what is happening in our neck of the woods — just south of Chicago, directly downwind from the steel mills. Recent news about the mills has been bittersweet. With the recent economic downturn, it appears that more than 3000 people will be laid off in the near future. Obviously, that's horrible news for the workers, their families, and for the local economy. But this type of economic pressure forces companies into a position where to remain viable, they must retool. The same situation is also occurring with the automobile manufacturers. Restructuring in that industry appears more feasible, as nearly every company has devised an electric vehicle in the past. The EV was shelved in California in the early 90s, even though consumer demand was high. Theories regarding this business decision largely point to the pressure from the oil companies and from the auto parts industry. So when it comes to steel and automobile manufacturers, do you believe it is possible to do there what you're doing with Interface?

Well, with the general model that we published in "Mid-Course Correction," the transformation from the typical company of the 20th century to the prototypical sustainable company of the 21st century should be possible for all industry.

Q: So you believe it's uniformly applicable then?

I think it is and of course the specifics will vary from one company to another and from one industry to another. The fundamentals are pretty sound; we all profit by taking stuff from the earth and making stuff that very quickly ends up as waste that ends up in a landfill. Even if it is a car that lasts for twenty years, it ends up as scrap where all cars go to die and all of us are running processes with energy coming from fossil fuels, wasteful and abusive, so I think yeah, the principles apply, and the most important principle of all is in the sixth face of mountain, which calls for the culture shift which may set the manner of change. I think it's the general model for the whole economy.

Q: And with that particular stage, society might be able to rewrite the chapter in the *Ecology of Commerce* from “Death to Birth” to “Cradle to Cradle?”

Actually, the “Cradle to Cradle” phrase is William McDonough’s phrase and I prefer not to use it. I prefer to use “Life after Life.”

Q: With respect to changing the mindset, do you believe that the sensitive matter of overpopulation should be addressed as well?

Ultimately, yes. The population growth right now is in the low-impact countries, the developing countries where the average person has very little impact on the environment. It rose for Americans because of the way we live. But if their standard of living rises, then their impact will rise and ultimately the population part of the impact equation: the IPAT. Do you know the IPAT equation?

Q: Where $I = P \times A \times T$? Population (P), Affluence (A) and Technology (T) are essentially measured with respect to environmental Impact (I) or resource depletion?

Yeah, I have a vision for the equation. In *Mid-Course Correction*, I talked about moving technology from the numerator to the denominator, because $I = P \times (A/T)$ instead of $I = P \times (A \times T)$ would reduce impact. But there are a couple things that stand out as being wrong with the IPAT equation even with T in the denominator. One being that “A” suggests Affluence is an end in itself, and I would prefer to see it as a means to an end, so use a “lower case a” to signify a means to an end, and I would like to add an item to the denominator, the end itself: “H” for happiness. So we’re talking about more happiness and less stuff. You’re talking about a real culture shift for more people to be happy with less stuff.

Q: Exactly. And that’s why I think it’s so critical to implement sustainability as an integral part of teaching at least at the business school level. That’s why we created new courses focusing on sustainability and on environmental stewardship. That’s why we’ve elected to publish this *Journal of Values Based Leadership*. It’s just so critical. It seems to me in terms of the interviews that I’ve done, there are common life experiences which help produce our present-day movers and shakers. During stage 1 – referring to the upbringing of the person, there may have been a religious, social, or personal factor of particular significance that influenced that person in a positive way. That upbringing might have been permeated by acts of benevolence, generosity, and respect for others practiced by parents, siblings or family friends. In early adulthood – the second stage - the individual has an epiphinal experience of some kind. Yours is well documented with the reading of the Hawkin’s book. And the third stage refers to the development and growth of a work ethic, ultimately translated into a passion to better the world. Do you see yourself in that paradigm?

More or less I would say. I have difficulty finding the seed from my childhood that has grown into what I am doing today. I do have classmates I grew up with who say “Ray, you knew life was serious long before the rest of us did.” I don’t know where that came from; I guess being born into a family that didn’t have a lot. My father had a job in the post office coming out of the Depression. I didn’t know we were poor, but we were. I had a mother who made sure I paid attention to my books and studies – a retired teacher I guess who practiced her profession on her children. I don’t know about my childhood seeds that sprouted into my adulthood, but I know the sense of responsibility for future generations, particularly my own grandchildren, plays a big role in it.

Q: This sense of responsibility is insatiable once the awareness is there. It just permeates the being; you wake up in the morning and it's "I've got another day to do something about this," and I don't know if that's your feeling...

Yes, I would think that everyone involved in the movement feels that way ... that time is short and the cause is urgent, and we may lose it. But the encouraging thing, the other side of that, is that I've never met an "ex-environmentalist."

Q: It's something you don't abandon...

No, once you get it, you don't "un-get" it. And then there's one more of us and one less of them. It only moves in one direction.

Q: People say guilt is bad, be it "Jewish Guilt," "Lutheran Guilt," "Catholic Guilt,"... any guilt quite frankly, but I see guilt as a good thing at times. With the environmental movement, certainly guilt emanating from examining one's lifestyle and the resulting acts of environmental degradation committed in support of that lifestyle - whether committed intentionally or not - could be a catalyst for a change of mindset and lifestyle in itself. Do you feel the same way?

I think that's true, my epiphinal experience came with tears of remorse.

Q: You see that in your videos, especially when you describe yourself as a "thief" and a "plunderer." We all share these titles. And once our mindsets are altered and our pattern of conduct comports with this new thinking, we must lead by example and surely you have done that - and continue to do that - very well and effectively.

There comes a point where you have to show people the "real deal." Well, we have the "real deal." Come to our factory and see it in action. That's where we kind of "interface," if you will, with people in a similar line of consulting. They have all the concepts, but they don't have all the examples, the kind of hands-on examples we have.

Q: In leading by example, colleges and universities have the ability to reform their campuses in line with sound environmental practices under the guidelines provided by A.A.S.H.E. (Association for the Advancement of Sustainability in Higher Education). In conformity with international sustainability conferences in which you direct or participate, aimed for an audience of corporate directors and CEOs, AASHE promotes similar conferences for academe. Valparaiso University is tentatively developing a conference with respect to sustainability that is directly aimed at the business student. While I know your schedule is completely tight, if this event does become a reality, would you ever consider coming up to speak?

You put a conference together, and my schedule fits, you've got me.

Q: I will definitely take you up on that. Now...where do you stand with your new book which further chronicles Interface's quest for Zero Missions*?

It's in the publisher's hands.

Q: The title is?

It is going to be called “Confessions of a Radical Industrialist.”

Q: My colleague, in fact, has written an article and shot a documentary with respect to the sustainability practices of Subaru, entitled “Green is Free.”

Just for your information, if you don’t know, Subaru and Interface have connected. They have agreed to create offsets upfront so that any of their cars that we drive in our fleet are climate neutral from day one.

Q: When did you start with this program?

It’s about a year old.

Q: Is it taking off?

I have not monitored it myself. People are not required to drive this car or that car, but it’s on a list of approved cars that they can drive. I think for most people who are environmentally sensitive, they’ve gone that way.

Q: That’s fantastic. I see that Paul Hawkin is part of your “Dream Team.” How is that going?

Well, the Dream Team has been critical to us from the very beginning. It was 13 years ago that they helped us get our map straight - the “How do you climb this mountain?” So they’ve been invaluable advisors to us all through the years. What you find is that instead of bringing them together, we go to them individually with specific issues.

Q: With the Interface model being a type of paradigm for all industry, instead of industry coming to you, have you been proactive, let’s say with the steel and the auto manufacturers?

We never go where we’re not invited, but we have an awful lot of good PR.

Q: Recently watching the three auto-makers’ CEOs fly their corporate jets to Washington D.C. ... there seems to be some lasting ignorance.

We didn’t hesitate to rub their noses in it.

Q: They seemed unabashedly unashamed. That situation – where, unfortunately, the temporary cessation of employment in Detroit might be necessary for comprehensive re-tooling - is somewhat analogous to the time when Apartheid was at its height in South Africa. There was a worldwide call for boycotting diamonds but the concern was that so many South African mine workers would be out of a job. The consensus, however, from the workers themselves was: “Let us be laid off. This is a worldwide problem that has to be addressed and targeted, and even though we bear the brunt of it, in the end good things will come for all.”

That's very farsighted, I mean, I mean for people to take that self-sacrificing stance for the greater good... .

Q: You saw that in South Africa. I don't know if you'll see that so much with our steel workers and auto workers. They and we have all been used to a certain lifestyle. So what might be bare bones existence for us may be living in palatial means in comparison for the people of South Africa. It's a different culture and mindset.

The urgency is upon us

III. THE TOUR

Plant Tour and Meeting with Members of Interface's Sustainability Team: December 16, 2009

Visiting Sustainability Team Members at Interface Plants in West Point and LaGrange, Georgia



Interface's Unique Operations

Although Interface's main headquarters are located in Atlanta, Georgia, several of its plants are situated just south of the city in the smaller towns of LaGrange and West Point. There are ten primary factories worldwide, with over 3,000 employees and a cumulative three million square feet of manufacturing and warehouse space. As an integral part in manufacturing its flooring products, Interface is striving to achieve a zero carbon footprint from the time an Interface employee leaves for work to the final distribution point of the product — all by 2020.



Marketing and Production

Upon entering the primary assembly plant, there is a sense of spaciousness, unlike the anticipated smells and sounds of the manufacturing process. Surprisingly lacking are noxious fumes and the roar of the typical assembly line. The workplace is clean and well organized, lit by natural light emanating through open ceiling panels. Air is circulated by large ceiling fans. The workers, or "associates," are surprisingly cheery, exhibiting a teamwork-like attitude, knowing that in their production of eco-friendly products, they are setting an example of how other businesses might also produce goods sustainably.

Led into a glassed-partitioned conference room, our JVBL team was introduced to the company's most recent innovations. One of the company's marketers demonstrated how the tiles are now being constructed to resist curling, constriction, and contraction to remain stable in different climate zones and under different humidity conditions. The company has also recently eliminated the use of glue in both the installation of the product as well as in fusing the nylon fibers to the tile backing in the production process. This program is known as *I'm Off Glue™*. To demonstrate these capabilities, several tiles were positioned together, flat on a tabletop. Using a hook mounted in the middle of one of the tiles, it was virtually impossible to lift the tile vertically. This adherence was accomplished through a natural vacuum or suction.

To reduce the amount of carpet replaced in worn or high traffic areas in a customer's workplace, random patterns are being introduced to blend easily with the remaining carpet tiles. In this manner, the tiles can be installed in any direction to produce a blended match without the need to replace the entire floor covering.

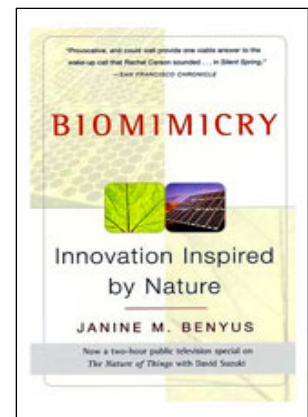


Evidence of environmental awareness is evident throughout Interface's buildings. Even in conference areas, the associates routinely practice resource reduction, reuse, and recycling. During company meetings, no chalk or dry erase boards are used – rather, a scroll of paper is the medium of choice to illustrate ideas. Once the scroll is completely used, it is reversed, used again, and ultimately recycled. Plastic water

bottles have been replaced by plant-based containers. All refuse accumulated in the course of a workday is segregated for recycling.

Due to its commitment to zero waste, and considering its power and position of influence in the global marketplace, Interface can select its suppliers, vendors, and distributors according to their commitment to shared environmental objectives. For example, the shiny substance covering the back of each tile is no longer coated with a polymer-based plastic but has been substituted for a product, referred to as polylactide or “PLA” – a biodegradable polymer – which is essentially a corn-based product made by Cargill. This product has the diaphanous and durability characteristics of plastic without its detrimental environmental consequences. Even everyday transportation is part of the sustainability equation. The company vehicle is a Subaru™ – another company committed to zero waste and landfill. Area restaurants and caterers know that their services will not be needed by Interface without their firm commitment to discontinuing the use of Styrofoam – a non-biodegradable substance often used in the production of disposable containers and cups.

When the company faces a new challenge or desires to ameliorate a certain deleterious practice, members of the Interface research and development team turn to nature, employing the practice of “biomimicry.” When extra adhesion was needed to anchor adjoining corners of tiles, studies were made using relevant plants, animals, and processes found in nature. The company, after studying the adherence characteristics of the spider, the fly, and the gecko, created a similar substance from natural elements to produce a *TacTile™*. The *TacTile™* is a 4” x 4” clear sheet of PLA lined on one side with the



biologically-duplicated adhering substance. Resembling a clear Post-It™ note, the individual sheet is then positioned beneath the adjoining corners to create a firm hold with a side-pull adhesion quality. Tiles cannot be pulled apart, but can be lifted on the corners to be replaced.

Tied into the initial demonstration and marketing area is the production floor. No protective equipment was necessary to enter and explore and no parts of the assembly line floor were “off limits.” The workers were very friendly and willing to explain their respective duties with enthusiasm and pride when queried. None of the forklifts used by the workers in the production area were fueled by diesel or gas; rather, they operated on batteries which are continuously re-charged.



During the early years of Interface, production methods employed the use of over 1000 needles, with individual threads flowing through each, often tangling or breaking before the fibers were fully tufted to complete the product. In cases where individual threads became tangled, or a needle snapped, or a fiber broke, or a new pattern began, the partial product or accumulation of waste materials would usually be discarded in a nearby landfill. Now, the flow of fibers is guided by individual flexible tubes to reduce entanglement and breaks. This practice withdrew a significant portion of the over 5 billion pounds of carpet scrap dumped in U.S. landfills annually.

Now broken threads of the same color are easily fused back together. The ends are rejoined by overlapping two strands of like color by approximately ten inches, and a machine customized by Interface interjects air into the overlapped threads, causing them to intertwine. This is just one example of how all previous wasted materials are now reused to create a new floor cover product. Another sustainable practice is exemplified by the construction

material of the storage modules. Supplies throughout the warehouses are stored and moved around to different parts of the plant in cardboard boxes which are repeatedly used until the point of disintegration. Even the masking tape used to bind the boxes is made locally from biodegradable materials.

Sales and Distribution

Following the initial tour of the factory floor, a brief meeting was held in the local headquarters and the tour continued to an adjoining warehouse where Interface’s new program,



ReEntry™ had been recently launched. In addition to eliminating waste in the production process, the ReEntry™ program recycles used flooring covers – originally manufactured by Interface as well as by other carpet makers. Drivers haul in used carpeting that would otherwise be dumped in landfills. It is cheaper for the drivers to unload these unwanted products in this manner. While the main intake center is located in LaGrange, Georgia, Interface is in the process of locating additional sites throughout the country to reduce the distance to haul and deliver used carpeting. The company ultimately wants to establish regional reception centers – all within 100 miles of each other – and to employ local workers at those new facilities.



Multiple programs and products are currently in place or under development. The Evergreen Lease® program is a way for institutions – e.g., schools, nursing homes, hospitals, airports, hotels, libraries, convention centers – to install carpeting without purchasing, installing, maintaining, and ultimately discarding the product. With the leasing arrangement, Interface supplies the carpet, keeps it clean, and removes it when the lessor decides to remodel or raze the premises. This program presents a win-win situation: the lessor saves resources and time by

having the work done by the manufacturer and Interface can insure that the final discarded product is properly recycled.



New products are being manufactured under the Bentley Prince Street™ line which blends aesthetics with ecological responsibility. Modular carpet tiles are produced under the InterfaceFLOR™ lines (Americas, Europe, Asia) which provide a plethora of designs in the workplace while remaining true to the company's Zero Mission.™

Research and Development

Simply stated, members of Interface's Research and Development team are driven by one principle: merge brain power with common sense. While government regulations are not spurned in the creation of new products and processes, tax credits for new, cleaner, and ecologically sustainable products and offsetting practices are preferred. Interface's R & D Department is characterized by numerous professions, ranging from the nanomicrobiologist to the mechanical engineer. Several R & D associates have even come up through the ranks without any specialized degrees or training and have proven themselves to be invaluable team members.

ReEntry™, Recycling and Renewal

Re-Entry™ is currently run as a separate entity. The program receives all used carpeting – tiles and broadloom. Carpet dealers can dispose the used articles at Interface without incurring a higher landfill cost. These independent dealers do bear the cost of transportation and Interface is currently striving to open additional warehouses nationwide to serve as central drop off locations.

Before the used goods are broken down and reprocessed, those samples deemed to be in substantially good shape are donated to non-profit organizations. Multi-million dollar, customized machines, then begin the process of segregating the different layers of the carpet remnant. Nothing is wasted throughout the process. Since this carpeting has been discarded primarily due to wear and tear and the consequences of high traffic over time, the accumulated dirt is shaken loose. Interface even has a market for the collection and reuse of the accumulated dirt.



Next, the top fibers are sheered, separated, and formed into new threads. All polymer-based nylon fibers are extracted from the backing which end product is then used at other businesses to produce such parts as vehicle dashboards. The residue is shaped into small, round balls or crumbs, known as “Cool Blue Food™” – harmless to the human system as the new substance lacks toxins, metals, and nonorganic flame retardants.



The crumbs are then sent to an adjoining plant to be further purified and cleaned. During the process of merging the backing with the new fibers, the layers must be melted together carefully in an “oven” which generates a precise temperature of 320 degrees both above and below the layers of pellets to form the new product. The energy used to generate this heat is derived from methane gas captured from a local landfill. When queried as to how this type of energy was selected, when the plant opened, local city officials originally wanted to charge Interface approximately one million dollars to install the necessary piping to connect the factory to the landfill. Interface, in response, inquired as to the charges that would be incurred by the utility company in installing and connecting electrical lines to the business. The point was made and the methane gas recapture produced a favorable outcome for both entities. This process of using captured methane gas earned Interface the EPA Energy Award in 2006.

Interface has dedicated a substantial amount of time and financial resources to make its operations sustainable. Approximately 20 R & D associates, working over a 7-year period of time, have surprisingly generated a high return on investment (ROI). The ROI achieved is \$4.40 for each dollar spent. Additionally, Interface maintains an aggressive patent program to protect its proprietary technology which is a major factor in creating competitive advantage. Interface believes that demonstrating a superior business model in a competitive marketplace is the key to influencing companies in much larger industries than carpets. Through such influence, Interface believes it will become restorative – not by just what it does in its own operations to reduce impact, but also by what it influences others to do. It is quite likely that Interface is already restorative (by this definition) even though it would not claim to be sustainable...yet.

Members of the R & D crew are encouraged to study other matters to help repair the biosphere while making sustainable, useful products for Interface customers. This diversity in purpose allows for greater versatility. Currently, several team members are investigating the

different ways of producing algae-based fuel for widespread use as a clean energy source alternative.

In addition to its R & D members, Interface employs the services of a designer, known for his commitment to fashioning items which eliminate material waste yet exude a high degree of aesthetics and creativity. This designer lives in LaGrange, in the middle of the Georgia pines, in close proximity to Interface's main operations.

Concluding Remarks

Interface is well on its way to the 2020 goal of complete sustainability and has on board vendors, suppliers, distributors, customers, and most importantly, a workforce united to achieve this milestone as a group effort. Through its worldwide operations and the insatiable dedication of its workers to pursue and promote innovation and creativity, the vision of complete sustainability is becoming a reality. It is now time for commerce and industry to begin its own mimicry by following "The Interface Model."





“Designing sustainable products has become an immense task, especially when sound engineering has been re-defined as something beyond performance. It must be harmonious with environmental factors.”

-Verena Kloos, President, BMW Group DesignworksUSA

BMW Group
DesignworksUSA



DRIVING SUSTAINABLE INNOVATION: A PIONEER FOR THE 21ST CENTURY

VERENA KLOOS, PRESIDENT, BMW GROUP DESIGNWORKSUSA, NEWBURY PARK, CA

Introduction

The future of viable, forward-moving, sustainable businesses will most likely be heavily influenced by the world’s engineers, architects, and designers. With ever-increasing demands to produce energy-efficient automobiles and other forms of transportation, companies known for their prowess in effectively responding to consumer needs with durable and well-engineered goods, are now facing critical environmental challenges in the manufacture of their products.

In response to this challenge, the BMW Group established *EfficientDynamics™*, a program designed to create a harmonious relationship between conserving and preserving environmental resources while maximizing product performance and appeal.

BMW Group DesignworksUSA, a wholly-owned subsidiary of BMW Group, is akin to a creative think-tank. For clients, including BMW Group, as well as blue-chip companies such as Hewlett Packard, Boeing Business Jets, and Microsoft, DesignworksUSA provides a raft of services from brand communications and strategy to product design. Like its parent BMW Group, DesignworksUSA echoes the *EfficientDynamics™* strategy and methods by preparing useful products that satisfy the consumer while advancing sustainable goals of environmental protection. DesignworksUSA has also established its own *Sustainable Management System* which permits its team to construct a corporate culture around principles of economic soundness, environmental stewardship, and social responsibility.

DesignworksUSA is an integral company within the BMW Group, employing approximately 135 individuals. Its headquarters are situated in Southern California, with additional studios in Munich and Singapore. The company attributes approximately 50% of its commissions from BMW Group, including BMW, MINI, and Rolls-Royce Motor Cars. Verena Kloos, President of DesignworksUSA, has wholeheartedly accepted the multi-faceted challenges of satisfying customer interests, perpetuating aesthetic achievement, and formulating eco-friendly designs. Kloos, who oversees daily company responsibilities and governs the working structure of DesignworksUSA, promotes creativity while concomitantly fashioning a direction of responsible innovation.

Background

Born in Wolfsburg, Germany – coincidentally home to Volkswagen Motor Company – Ms. Kloos began her journey working an internship at Volkswagen, eventually attaining a design degree from the University of Art in Braunschweig. She subsequently became a design director in 1991 for Volkswagen in Simi Valley, California. Prior to her assuming the helm at DesignworksUSA, Kloos worked for DaimlerChrysler in Renningen and Sindelfingen, Germany and in Como, Italy, developing passenger car interiors for Mercedes-Benz.



In relocating to Southern California, Kloos became immersed in a region widely known for being the car enthusiast's world capital. Kloos is helping to advance the future of BMW vehicles with an environmentally conscious mindset. She has emerged as a true pioneer in her field, recently touted by *Automotive News* as one of the "100 Leading Women in the North American Auto Industry."

Her supervision of DesignworksUSA's activities has extended beyond the automobile to include such products as helmets, watches, exercise equipment, bicycles, motorcycles, rooftop wind turbines, household appliances, and furniture for other high-end clients.

In February, 2009, Ms. Kloos kindly granted an interview to the editorial staff of the *Journal of Values-Based Leadership*.

Interview, February 26, 2009 Newbury Park, California

Q: As the President of BMW Group DesignworksUSA, you appear to be facing two challenges in the business world: (1) your role as a female corporate officer in a predominately male-dominated industry and (2) your position to help BMW and other clients bridge the gap between achieving sustainability in making their products while achieving the aesthetics demanded of customers. Addressing the former, how did you break into the automobile world? Weren't women generally persuaded away from this type of vocation?

Well, you had to be good at statistics and good at typical drawing and mechanical engineering. You had to encounter a male-dominated engineering field.

Q: Although students in business, law, and other professional and pre-professional schools appear to be nearing gender equality or at least approaching a parity of sorts, the presence of females in the engineering and design fields appear to be somewhat more unbalanced. Would you agree that there still exists a general notion that females are more attuned qualitatively, but less quantitatively?

Funny enough, I wanted myself to finish school with a degree in modern languages: English, French, and Latin. And then on the other side there was biology, chemistry – the natural sciences. I majored in Mathematics and Physics and interestingly enough, I was pretty good with it. But I ended up being the only girl in the class.

Q: In 1986, women who were climbing the corporate ladder and pursuing certain degrees that were typically not permeated by females at that time – both in Europe and in America – ostensibly faced tremendous obstacles. Did you ever feel put down to the degree that you decided that you were not going to go forward or did you have a goal in mind and decide that whatever happens, happens?

During my internship at Volkswagen, there had been so few women around. They asked me to do the exterior design and I said, “No, I don’t want to do that; I’d rather do the interior and color of material” for me to be more comfortable. To get started, it’s very important that you feel comfortable because when you have confidence, you can speak about what you’re doing.

Q: You were challenging things people didn’t expect you to challenge, sort of a pioneer.

I was only a pioneer at Volkswagen because I had the nerve to leave after just two and a half years! They promised me a great career, and it was surprising to everybody but I wanted to experience Japanese car culture. It was ’88-’89...

Q: And that’s when you went to work for Mazda at its Research & Design Center in Germany?

Yes. Mazda was interesting enough, and its studio wasn’t so far away from Volkswagen. As you, can imagine that culture was even more traditional and dominated by men. I was the only woman to be flown back and forth to Japan and I have to admit that felt pretty good!

Q: But before too long Volkswagen called you back with an interesting opportunity?

In 1991, the Chief Designer called to offer me the Executive Director position at the new Volkswagen Design Center in Simi Valley, California. During this time period, European car companies – especially German-owned – needed a facility outside of their headquarters on the west coast. Because there you’ll see the car culture and lots of other things that we need to learn. We need to learn through the eyes of a designer with a lot of the product planning people. And we have people there to take in what they see and what they feel and observe this. They needed to observe the whole environment and to get some inspiration and that is what we did.

Q: How long did you stay at the Volkswagen Design Center?

About three to three and a half years, because I had an assignment for 3 years and then I moved back to Germany.

Q: What exactly did you do for them? Could you name one thing that stands out in your mind, that you are the most proud of?

We did everything for exterior and interior design from wheels and body curvatures to dashboards and seats. During this time we came up with the so-called “four door” coupe, which was very innovative and provocative. It took more than a decade for companies to start actually building these cars, like today’s Mercedes-Benz CLS and Volkswagen CC, because ergonomically the shape of the roofline leaves less space for people sitting in the rear seats. But the proportions are much more sporty and elegant and we felt it was necessary for the American market which is more modern in design and functionality.

Q: At this time, back in the early 90’s, it seems like other than Al Gore very few people understood the degree to which the environment was suffering. What was happening in Europe in the building of more sustainable means of transportation?

In Europe, there were certain products that were becoming more sustainable. Different materials were being experimented with. For instance, cotton items were being used as opposed to synthetic materials. Europe was already focused on smarter development for cars with new brands and eco-friendly products.

Q: For consumers to want them, do you think things need to look good as well as be sustainable and eco-friendly? Brad Pitt’s Company in New Orleans has produced what has been deemed as the “green house of the future;” it’s great in terms of energy efficiency, but frankly, it is not very attractive. Do you see room in the future for combining eco-friendly products with aesthetics?

I have a strong belief that our perception will change – this idea of what is “good” and what that really means. Some things cannot by definition “look good” because in actuality they are doing harm. The criteria for evaluating what looks “good” is becoming more holistic and in some ways, substantive.

You have to remember that designing products that are “good” from the inside out is a relatively new priority for a lot of companies. The goal before was to try and make it great- looking, interesting, and desirable, but now it is the policy of sustainability. And this can be applied to all products, whether it be chairs that you sit on or household products. There’s always the component of sustainability; there is the comprehensive look at the world in all the products we are making.

Q: Do you see a new emphasis on renewable sources of energy?

Yes but, especially in the United States, there is a big sensitivity with regard to cost. I have an old friend from design college who always has bright ideas which certainly have the ability for sustainability but are perhaps not so cost effective. She became a realtor and found that people didn’t want to pay for solar panels or to invest in heavy windows and such. In Germany, they overdo it in my opinion, spending a lot of money up front but they never get a payoff when you calculate how much heating costs are saved. But as demand for sustainable technologies increases, prices will

come down, making it easier for consumers to strike that balance between cost and return on investment.

Q: And with the current administration, we're looking at new investment incentives. Yes, it's an initial investment that might cause us to have to take out a second mortgage, but there are tax credits which make the investment less costly so it becomes more appealing to the general public. So things appear to be changing. I'm just wondering if that kind of change will also dictate the type of products made and how and what your company designs in the future.

We have to do much more in what is called a life-cycle analysis which involves analyzing various factors of the impact of what the product is doing...not the product by itself, but the materials that make up the system.

Q: At DesignworksUSA, are you in a position to say "no" to a corporation or design if the customer is asking you to make something that is not as kind to the environment as you'd like it to be?

We try to be picky, but not everyone is as far along the green continuum as DesignworksUSA. Sometimes it is part of our job to bring a client along, bring them further into thinking about the long-term implications of its products. In fact, we are now being hired by some major brands specifically to do just this: to help them rethink how their products, some of which may not be particularly kind to the environment in their present state, can evolve to become more eco-sensitive and sustainable.

Q: Are you primarily concerned with better fuel efficiency?

While the engineers that work on elements such as power trains are closer to this question, when it comes to fuel economy, we as designers are primarily looking at the materials involved. It still must be cost effective. We're looking at all the things that go into the car with particular consideration for weight. These are the projects that are really exciting and sometimes dictate that the company goes in adventurous new directions.

Q: In your current position, I'd imagine you need to do a lot of multi-tasking? Do you have any innovative approaches that help you manage all the activity?

Yes, it's true I have to do a lot of things all at once. I have to make sure the designers are guided, keep things together, keep up with new technologies. I would love to work in new experimental ways, but I must also make sure that it's best for the company, too. I have to deal with people of different cultures, different generations, and their everyday personal difficulties, maybe divorce, the usual facts of life, that's what we learn. And the economic difficulties we are all facing add a lot of stress as well. And so all of a sudden colleagues are saying "maybe we shouldn't take that cruise or two weeks off," or "I shouldn't buy that house," and we're all experiencing that pressure.

Q: How is the current economic climate directly affecting DesignworksUSA?

Relatively speaking we're fortunate here, and in pretty good shape. We do not compromise on the product design. We'd all like for things to be the way they used to be – to salvage the old line, but those days are over, there's no choice or debate. It's black and white.

Q: I would think you would have more challenges in the design field than ever before?

Yes. Our clients — BMW Group included — are investing in the product, in research and on top of that, broader design strategy. Without this, the product lines will never change and they won't thrive and then be cut out. Strong, leading companies keep moving forward despite the faltering economy and keep up with the demands of today. But when you look to tomorrow, you must also look to the past and its traditions as guideposts to your direction forward — and not just follow in another direction completely.

Q: Could some of your major clients down the road be governments, municipalities, states? If a governmental entity were to ask: "We need for you to make 'X' product for us" – would you accept this type of client?

Sounds exciting! The great thing about design is that it can adapt to each industry and we can work with any product for any project so long as it's ethically correct. We don't do anything for the military, for military education, for the development of weapons and that kind of thing.

Postscript

Company Philosophy. In the pursuit of effective and equitable leadership, personal egos must give way to team collaboration. In the field of design, these goals are conceptually difficult to achieve. Contrary to an isolationist method of individual innovation, BMW Group DesignworksUSA actively promotes openness among its associates, the sharing of ideas, product development meticulousness, team motivation, humility, and shaping new strategies from lessons learned. Even the company's physical structure lacks walls to encourage idea interchange. The presence of offices in Munich and Singapore gives credence to promoting the confluence of innovative minds in diverse marketplaces.

"It is easy to think about emissions or recycling with a word like 'sustainability.' At BMW, we think that there is a need for cultural or socio-cultural sustainability too. We understand our associates as working in a culture of design, and good cultures strive for sustainability. I must strive to ensure that a successful team continues in its success."

— Christopher E. Bangle, Director of Design, BMW Group (1992-2009)

Chris Bangle, Director of Design for the BMW Group (1992-2009), advocates a philosophy of "context over dogma," where historical trends merge with future vision. Whereas the company has traditionally faced the challenge of fusing technology with aesthetics, it is now confronted with yet another variable to address in design strategy. Creating an eco-friendly automobile is seemingly a tall order for the car known for high performance and superb engineering — the "Ultimate Driving Machine."

Common sense dictates that a well-made product will stave off the landfill for a longer period of time. The BMW Group attempts to extenuate product durability by using the input and suggestions for better performance given by special test drivers, reducing the car's overall weight, and substituting fog lights for air ducts to direct oxygen to the engine to improve its efficiency. The historical maxim

has been to mold materials to produce the item; BMW is attempting to reverse this process by using materials to dictate the mold of the car's elements.

“When you are a global company, you have to let the world in. You have to know what the world is thinking and dreaming.”

–Verena Kloos, President of BMW Group DesignworksUSA

Achievements. In creating well-constructed and engineered vehicles that will have a longer shelf life than their counterparts, controlling costs is always problematic, but in a world confronted with seemingly insurmountable ecological problems, the choice to continue doing business as usual or doing nothing at all is unacceptable.

With the design of the vehicle and the configuration of other products, the BMW Group is using its worldwide network to face global challenges with its trademark advancements in innovation. Some of the recent accomplishments of the design team include:

1. **The ecopod™** The ecopod™ is basically a kitchen appliance designed to maximize room while functioning as an automatic, human-powered, mini-recycling center. Papers, plastics and other recyclable materials are deposited and crushed. Troy Hoidal -- founder of ecopod™ -- commented of its designer: “DesignworksUSA has its foundation in sustainability.”
2. **Aerovironment Wind Turbine.** As solar energy becomes much more of an attractive and clean, renewable energy source -- particularly with respect to powering homes and businesses in the



Southwestern states -- wind turbine vendors have turned to DesignworksUSA to fashion an attractive, highly functional, rooftop system which incorporates style and purpose into a sustainable structure.

3. **Carbon Reduction Emissions.** DesignworksUSA's parent company, BMW Group, has generated the most significant reduction in carbon emissions of any major car manufacturer during the time period 1990-2003 according to *Environmental Defense*.

Biography

When Verena C. Kloos was named President of BMW Group DesignworksUSA in September 2004, it was the natural progression in a lengthy and illustrious career spanning more than twenty years with many of the most recognized brands in the automotive industry.

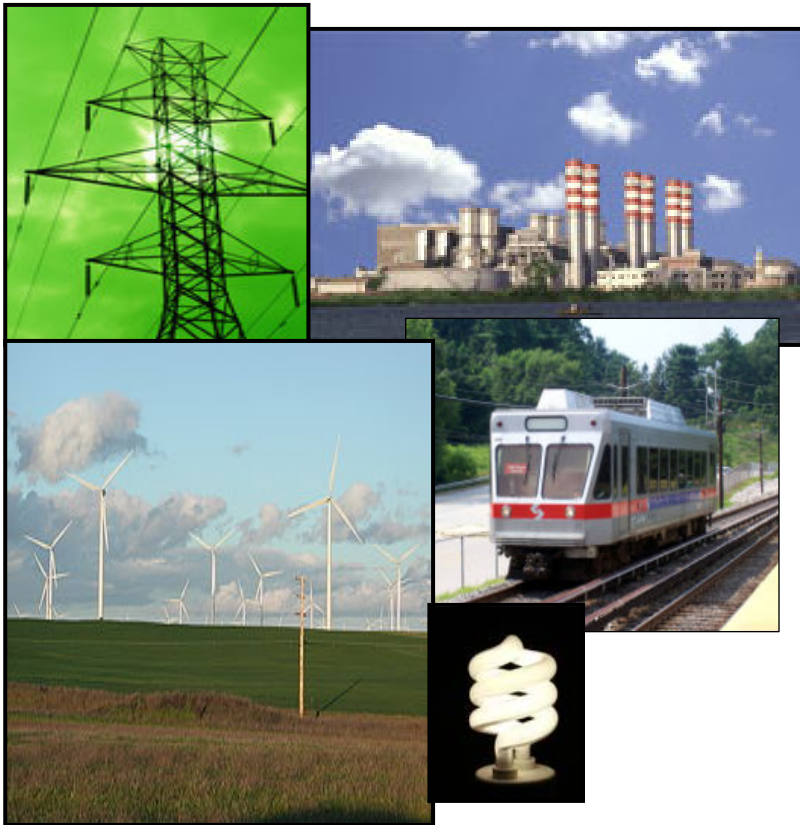
Following her graduation from the University of Fine Arts at Braunschweig in her native Germany, Kloos began her career in 1987 with Volkswagen AG in Wolfsburg as Team Leader of Design, Color and Trim, where she remained until 1989. She then joined Mazda Motor Corporation, serving as Chief Designer, Color and Trim, at its Research & Development Center Europe in Oberursel, Germany. In 1991, Kloos was recruited once again by Volkswagen, serving first as Executive Director at its newly-opened Design Center in Simi Valley, California; then returning to Wolfsburg in 1994 as Project Manager for Strategy and Product Management.

In 1996 Kloos joined DaimlerChrysler AG where she performed three pivotal roles: Senior Manager, Product Planning, for smart Micro Compact Car GmbH in Renningen, Germany; Project Manager, Design, for Mercedes-Benz; and finally President, DaimlerChrysler Advanced Design Italia, in Como, Italy, where Kloos designed and developed advanced interior concepts for the Mercedes-Benz passenger car group including the Mercedes-Benz, Maybach, and smart brands. Among her most notable accomplishments were the development of the trendsetting Mercedes-Benz CLS, the world's first "four-door coupe," and the iconic smart premium micro-car.

Today, as President of DesignworksUSA — a wholly-owned subsidiary of BMW Group with 135 employees — Kloos leads the global design consultancy's strategy and operations including all three of its studios in Los Angeles, Munich and Singapore. She lends her extensive expertise not only to automotive design, as DesignworksUSA serves as the creative think-tank for the BMW Group portfolio including BMW, MINI, and Rolls-Royce Motor Cars, but also to its additional clients spanning a spectrum of industries including aviation, lifestyle and recreation, and design for environments. DesignworksUSA provides brand communications, strategy, design development and prototyping to clients such as Hewlett Packard, Microsoft, Embraer, Boeing Business Jets, Starbucks, Advanced Medical Optics, Bavaria Yachts, and many more.

Under her leadership, DesignworksUSA has been the recipient of more than 30 prestigious design awards including iF product design, red dot product design, and ID magazine's "Design Distinction." In 2008, Kloos was recognized by Forbes as one of the top female executives in the auto industry and was named among the "100 Leading Women in the North American Auto Industry" by *Automotive News* in 2005. She has also served as the keynote speaker at prestigious international conferences including Design Management Institute and ESOMAR, and other global design conferences.

Kloos lives in Malibu, California.



The United States and other developed countries should seize the opportunity to take the lead in developing new, clean, energy-efficient technologies, and help developing countries take a greener path to economic prosperity. All of this can be done in a cost-effective manner, while creating jobs and new business opportunities.

— *Union of Concerned Scientists*

Climate 2030: A National Blueprint for a Clean Energy Economy Executive Summary

RACHEL CLEETUS, *ECONOMIST, UCS CLIMATE PROGRAM*
STEVEN CLEMMER, *RESEARCH DIRECTOR, UCS CLEAN ENERGY PROGRAM*
DAVID FRIEDMAN, *RESEARCH DIRECTOR, UCS CLEAN VEHICLES PROGRAM*

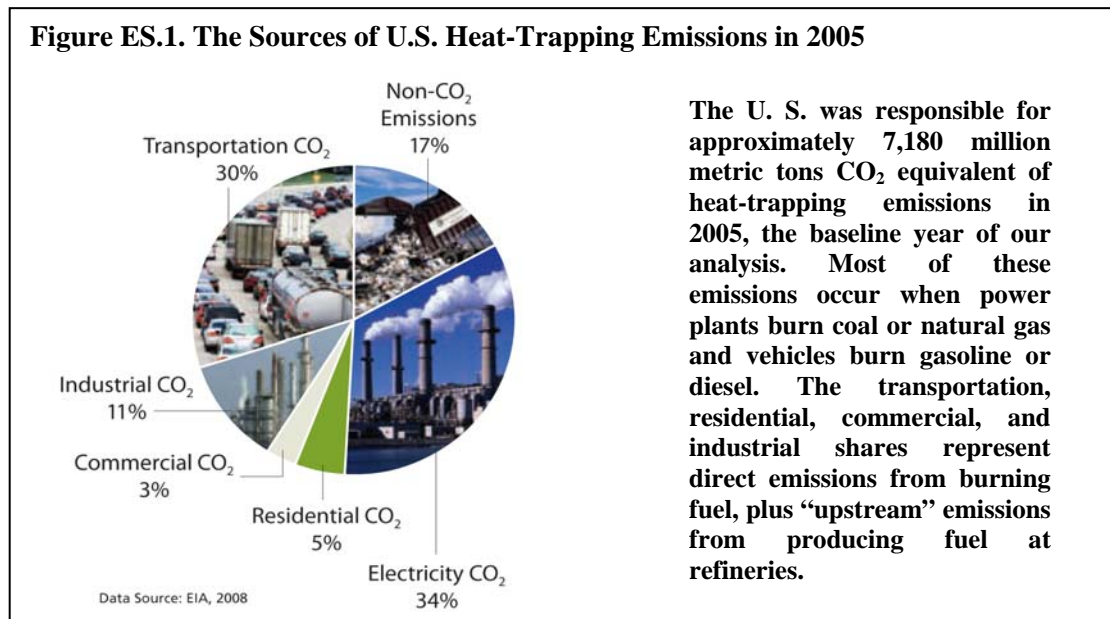
UNION OF CONCERNED SCIENTISTS*
CAMBRIDGE, MA (National Headquarters), WASHINGTON, D.C., BERKELEY, CA, CHICAGO, IL

Building a Revitalized Clean Energy Economy

Reducing oil dependence. Strengthening energy security. Creating jobs. Tackling global warming. Addressing air pollution. Improving our health. The United States has many reasons to make the transition to a clean energy economy. What we need is a comprehensive set of smart policies to jump-start this transition without delay and maximize the benefits to our environment and economy. *Climate 2030: A National Blueprint for a Clean Energy Economy* (“the Blueprint”)** answers that need.

Recent rapid growth of the wind industry (developers have installed more wind power in the United States in the last two years than in the previous 20) and strong sales growth of hybrid vehicles show that the U.S. transformation to a clean energy economy is already under way. However, these changes are still too gradual to address our urgent need to reduce heat-trapping emissions to levels that are necessary to protect the well-being of our citizens and the health of our environment.

Global warming stems from the release of carbon dioxide and other heat-trapping gases into the atmosphere, primarily when we burn fossil fuels and clear forests (see Figure ES.1). The problems resulting from the ensuing carbon overload range from extreme heat, droughts, and storms to acidifying oceans and rising sea levels. To help avoid the worst of these effects, the United States must play a lead role and begin to cut its heat-trapping emissions today—and aim for at least an 80 percent drop from 2005 levels by 2050.



The Climate 2030 Approach

This report analyzes the economic and technological feasibility of meeting stringent targets for reducing global warming emissions, with a cap set at 26 percent below 2005 levels by 2020, and 56 percent below 2005 levels by 2030. Meeting this cap means the United States would limit total emissions — the crucial measure for the climate — to 180,000 million metric tons carbon dioxide equivalent (MMTCO₂eq) from 2000 to 2030.*

The nation’s long-term carbon budget for 2000 to 2050—as defined in a previous UCS analysis (Luers et al. 2007) — is 160,000 to 265,000 MMTCO₂eq. The 2000–2030 carbon budget in our analysis would put us on track to reach the mid-range of that long-term budget by 2050, if the nation continues to cut emissions steeply.

To reach the 2020 and 2030 cap and carbon budget targets, the Blueprint proposes a comprehensive policy approach (the “Blueprint policies”) that combines an economy-wide cap-and-trade program with complementary policies. This approach finds cost-effective ways to reduce fossil fuel emissions throughout our economy — including in industry, buildings, electricity, and transportation — and to store carbon through agricultural activities and forestry.

Our analysis relies primarily on a modified version of the U.S. Department of Energy’s National Energy Modeling System (referred to as UCS-NEMS). We supplemented that model with an analysis of the impact of greater energy efficiency in industry and buildings by the American Council for an Energy Efficient Economy. We also worked with researchers at the University of Tennessee to analyze the potential for crops and residues to provide biomass energy. We then combined our model with those studies to capture the dynamic interplay between energy use, energy prices, energy investments, and the economy while also considering competition for limited resources and land.

Our analysis explores two main scenarios. The first – which we call the Reference case – assumes no new climate, energy, or transportation policies beyond those already in place as of October 2008.** The second – the Blueprint case – examines an economy-wide cap-and-trade program, plus a suite of complementary policies to boost energy efficiency and the use of renewable energy in key economic sectors: industry, buildings, electricity, and transportation. Our analysis also includes a third “sensitivity” scenario that strips out the policies targeted at those sectors, which we refer to as the No Complementary Policies case.

Our analysis shows that the technologies and policies pursued under the Blueprint produce dramatic changes in energy use and cuts in carbon emissions. The analysis also shows that consumers and businesses reap significant net savings under the comprehensive Blueprint approach, while the nation sees strong economic growth.

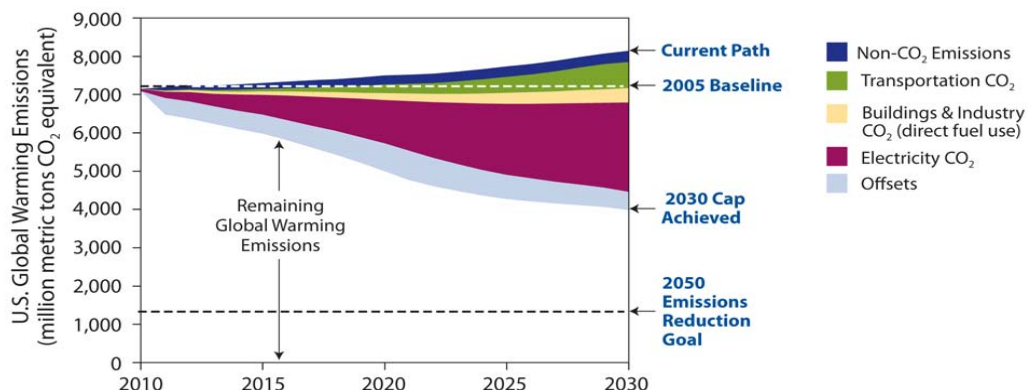
* This amount is equivalent to the emissions from nearly 1 billion of today’s U.S. cars and trucks over the same 30-year period. The nation now has some 230 million cars and trucks, and more than 1 billion vehicles are on the road worldwide. Given today’s trends, we can expect at least 2 billion vehicles by 2030 (Sperling and Gordon 2009).

** Our analysis includes the tax credits and incentives for energy technologies included in the October 2008 Economic Stimulus Package (H.R. 6049), as well as the transportation and energy policies in the 2007 *Energy Independence and Security Act*. However, the timing of the February 2009 *American Recovery and Reinvestment Act* did not allow us to incorporate its significant additional incentives.

The Blueprint Cuts Carbon Emissions and Saves Money

Blueprint policies lower U.S. heat-trapping emissions to meet a cap set at 26 percent below 2005 levels in 2020, and 56 percent below 2005 levels in 2030 (see Figure ES.2). The actual year-by-year

Figure ES.2. Net Cuts in Global Warming Emissions under the Climate 2030 Blueprint



Along our current path (the Reference case) emissions continue to rise. The Blueprint policies achieve the cap by constraining cumulative emissions to 180,000 MMTCO₂eq between 2000 and 2030. (See “Approach” Box).

emissions reductions differ from the levels set in the cap because firms have the flexibility to over-comply with the cap in early years, bank allowances, and then use them to meet the cap requirements in later years.

To meet the cap, the cumulative *actual* emissions must equal the cumulative tons of emissions set by the cap. In 2030, we achieve this goal.

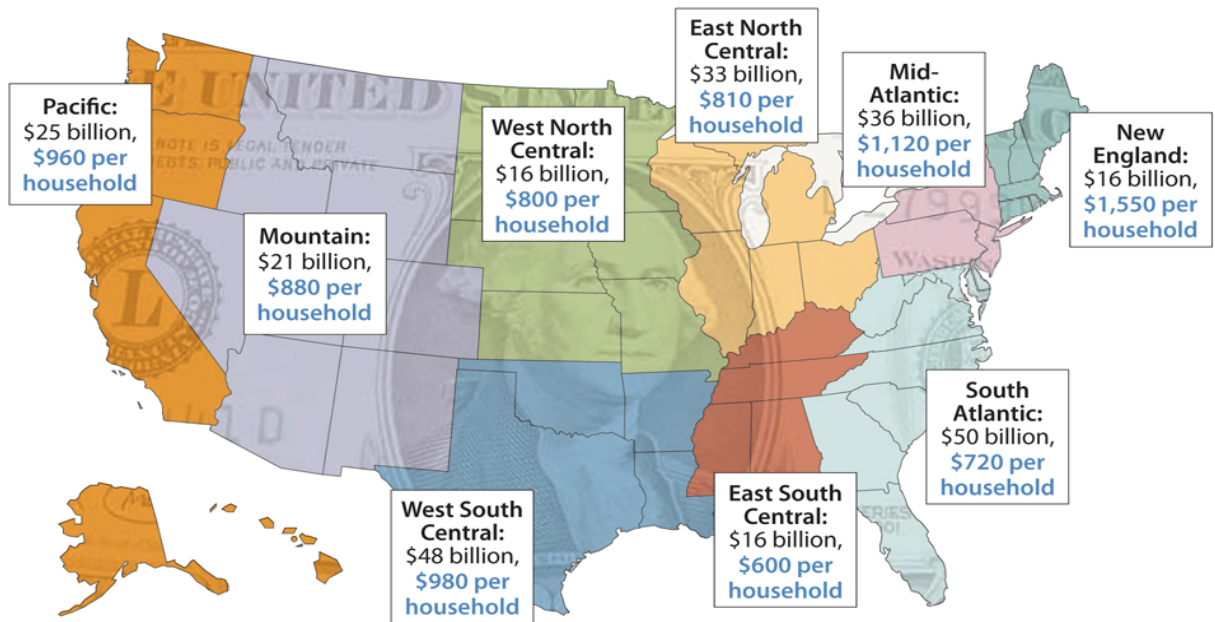
The nation achieves these deep cuts in carbon emissions while saving consumers and businesses \$465 billion annually by 2030. The Blueprint also builds \$1.7 trillion in net cumulative savings between 2010 and 2030.¹

Blueprint policies stimulate significant consumer, business, and government investment in new technologies and measures by 2030. The resulting savings on energy bills from reductions in electricity and fuel use more than offset the costs of these additional investments. The result is net annual savings for households, vehicle owners, businesses, and industries of \$255 billion by 2030.²

We included an additional \$8 billion in government-related costs to administer and implement the policies. However, auctioning carbon allowances will generate \$219 billion in revenues that is invested back into the economy.³ This brings annual Blueprint savings up to \$465 billion by 2030.⁴

Under the Blueprint, every region of the country stands to save billions (see Figure ES.3). Households and businesses — even in coal-dependent regions — will share in these savings.

Figure ES.3. Net Consumer and Business Savings
(by Census Region in 2030, in 2006 dollars)



Net Annual Savings in 2030	Total	\$255 billion
	Business	\$129 billion
	Consumers	\$126 billion
	Average Consumer	\$900 per household

Note: Values may not sum properly because of rounding.

Consumers and businesses in every region of the country save billions of dollars under the Blueprint. Household numbers do not include business savings.

The Blueprint keeps carbon prices low. Under the Blueprint, the price of carbon allowances starts at about \$18 per ton of CO₂ in 2011, and then rises to \$34 in 2020, and to \$70 in 2030 (all in 2006 dollars). Those prices are well within the range that other analyses find, despite our stricter cap on economy-wide emissions.

In addition, the Blueprint achieves much larger cuts in carbon emissions *within the capped sectors* because of the tighter limits that we set on “offsets”⁵ and because of our more realistic assumptions about the cost-effectiveness of investments in energy efficiency and renewable energy technologies.

The economy grows by at least 81 percent by 2030 under the Blueprint. U.S. gross domestic product (GDP) expands by 81 percent between 2005 and 2030 under our approach – virtually the same as in the Reference case, which shows the U.S. economy growing by 84 percent. In fact, our model predicts that the Blueprint will slow economic growth by less than 1.5 percent in 2030 – equivalent to only 10 months of economic growth over the 25-year period.⁶

The Blueprint also shows practically the same employment trends as the Reference case. In fact, non-farm employment is slightly higher under the Blueprint than in the Reference case (170 million jobs versus 169.4 million in 2030).

We should note that there are significant limitations in the way NEMS accounts for the GDP and employment effects of the Blueprint policies. NEMS does not fully consider the economic growth that would arise from investments in clean technology, or from the spending of the money consumers and businesses saved on energy due to these investments. And the Reference case does not include the costs of global warming itself.

The Blueprint cuts the annual household cost of energy and transportation by \$900 in 2030. The average U.S. household would see net savings on electricity, natural gas, and oil of \$320 per year compared with the Reference case, after paying for investments in new energy efficiency and low-carbon technologies.

Transportation expenses for the average household would fall by about \$580 per year in 2030. Those savings take into account the higher costs of cleaner cars and trucks, new fees used to fund more public transit, and declining use of gasoline.

Businesses save nearly \$130 billion in energy-related expenses annually by 2030 under the Blueprint. Neither the energy nor the transportation savings account for the revenue from auctioning carbon allowances that will be invested back into the economy, lowering consumer and business costs (or increasing consumer and business savings) even further.

The Blueprint Changes the Energy We Use

Blueprint policies reduce projected U.S. energy use by one-third by 2030. Significant increases in energy efficiency across the economy and reductions in car and truck travel drive down energy demand and carbon emissions.

Carbon-free electricity and low-carbon fuels together make up more than one-third of the remaining U.S. energy use by 2030. A significant portion of U.S. reductions in carbon emissions in 2030 comes from a 25 percent increase in the use of renewable energy from wind, solar, geothermal, and bio-energy under the Blueprint. Carbon emissions are also kept low because the use of nuclear energy and hydropower – which do not directly produce carbon emissions – remain nearly the same as in the Reference case.

The Blueprint reduces U.S. dependence on oil and oil imports. By 2030, the Blueprint cuts the use of oil and other petroleum products by 6 million barrels per day, compared with 2005. That is as much oil as the nation now imports from the 12 members of OPEC (the Organization of Petroleum Exporting Countries). Those reductions will help drop imports to less than 45 percent of the nation's oil needs, and cut projected expenditures on those imports by more than \$85 billion in 2030, or more than \$160,000 per minute.

Smart Energy and Transportation Policies Are Essential for the Greatest Savings

Climate 2030 Blueprint Policies

Climate Policies

- Economy-wide cap-and-trade program with:
- Auctioning of all carbon allowances
- Recycling of auction revenues to consumers and businesses*
- Limits on carbon “offsets” to encourage “de-carbonization” of the capped sectors
- Flexibility for capped businesses to over-comply with the cap and bank excess carbon allowances for future use

Industry and Buildings Policies

- An energy efficiency resource standard requiring retail electricity and natural gas providers to meet efficiency targets
- Minimum federal energy efficiency standards for specific appliances and equipment
- Advanced energy codes and technologies for buildings
- Programs that encourage more efficient industrial processes
- Wider reliance on efficient systems that provide both heat and power
- R&D on energy efficiency

Electricity Policies

- A renewable electricity standard for retail electricity providers
- R&D on renewable energy
- Use of advanced coal technology, with a carbon-capture-and-storage demonstration program

Transportation Policies

- Standards that limit carbon emissions from vehicles
- Standards that require the use of low-carbon fuels
- Requirements for deployment of advanced vehicle technology
- Smart-growth policies that encourage mixed-use development, with more public transit
- Smart-growth policies that tie federal highway funding to more efficient transportation systems
- Pay-as-you-drive insurance and other per-mile user fees.

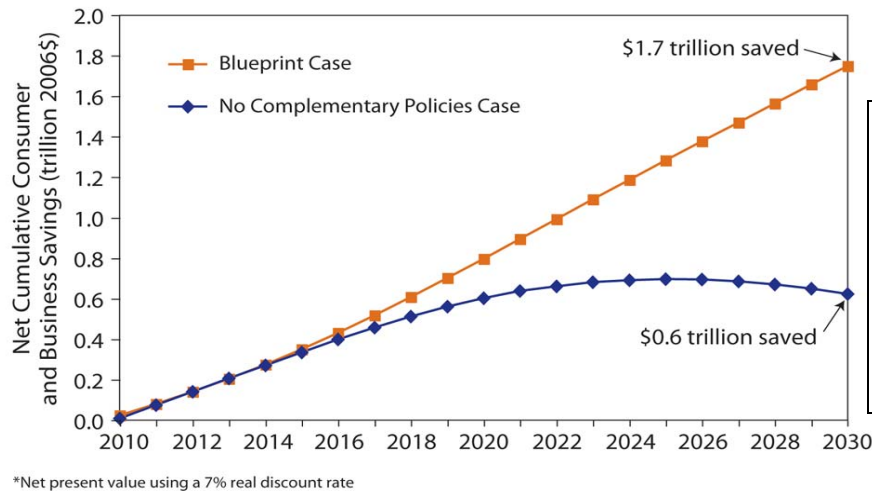
* See Footnote 3

Many of the Blueprint's complementary policies have a proven track record at state and federal levels. These policies include emission standards for vehicles and fuels, energy efficiency standards for appliances, buildings, and industry, and renewable energy standards for electricity (see box). The Blueprint also relies on innovative policies to reduce the number of miles people travel in their cars and trucks.

These policies are essential to delivering significant consumer and business savings under the Blueprint. Our No Complementary Policies case shows that if we remove these policies from the Blueprint, consumers and businesses will save much less money.⁷ Excluding the complementary policies we recommend for the energy and transportation sectors would reduce net cumulative consumer and business savings through 2030 from a total of \$1.7 trillion to \$0.6 trillion (see Figure ES.4).

Our No Complementary Policies case also shows that excluding the policies we recommend for the energy and transportation sectors will double the price of carbon allowances.

Figure ES.4. Net Cumulative Savings (2010–2030)



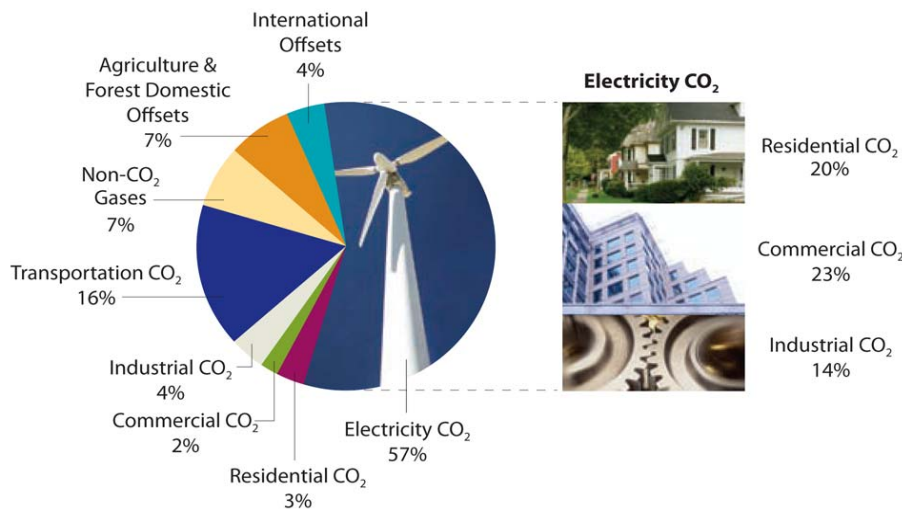
The 2010-2030 net cumulative savings to consumers and businesses are \$1.7 trillion under the Blueprint case. Under the No Complementary Policies case, which strips out all the energy and transportation policies, these savings are \$0.6 trillion.

Where the Blueprint Cuts Emissions and Saves Money

Five sectors of the U.S. economy account for the majority of the nation’s heat-trapping emissions: electricity, transportation, buildings (commercial and residential), industry, and land use. Blueprint policies ensure that each of these sectors contributes to the drop in the nation’s net carbon emissions.

The electricity sector – with help from efficiency improvements in industry and buildings – leads the way by providing more than half (57 percent) of the needed cuts in heat-trapping emissions by 2030. Transportation delivers the next-largest cut (16 percent). Carbon offsets provide 11 percent of the overall cuts in carbon emissions by 2030. Reduced emissions of heat-trapping gases other than carbon dioxide (non-CO₂ emissions) deliver another 7 percent of the cuts. Savings in direct fuel use in the residential, commercial, and industrial sectors are the final pieces, contributing 3 percent, 2 percent, and 4 percent, respectively, of the reductions in emissions (see Figure ES.5).

Figure ES.5. The Source of Cuts in Global Warming Emissions in 2030 (Blueprint case vs. Reference case)



The electricity sector leads the way in emissions reductions, but the Blueprint ensures that all sectors contribute. Emissions cuts in the electricity sector include reductions in demand from energy efficiency in the residential, commercial, and industrial sectors.

National savings on annual energy bills (the money consumers save on their monthly electricity bills or gasoline costs, for example) total \$414 billion in 2030. As noted, these savings more than cover the costs of carbon allowances that utilities and fuel providers pass through to households and businesses in higher energy prices. The incremental costs of energy investments (expenditures on energy-consuming products such as homes, appliances, and vehicles) reach \$160 billion. The result is net annual savings of \$255 billion for households and businesses in 2030.

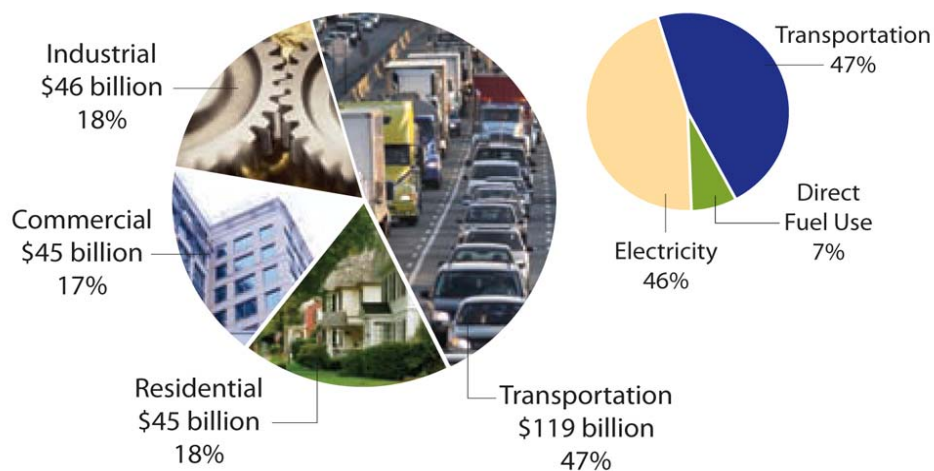
Table ES.1. Annual Consumer and Business Savings (in billions of 2006 dollars)

THE UNITED STATES OF AMERICA				
ENERGY SAVINGS	2015	2020	2025	2030
Energy Bill Savings	\$ 39	\$ 152	\$ 271	\$ 414
Energy Investment Costs	-38	-78	-123	-160
Net Consumer and Business Savings	\$ 1B	\$ 74B	\$147B	\$255B

Energy bill savings include the costs of renewable electricity, carbon capture and storage, and renewable fuels that are passed on to consumers and businesses on their energy bills. Energy investments costs include the cost of more efficient appliances and buildings, cleaner cars and trucks, and a more efficient transportation system. Note: Values may not sum properly because of rounding.

Households and businesses that rely on the transportation sector see nearly half of the net annual savings (\$119 billion) in 2030. However, Blueprint policies ensure that consumers and businesses throughout the economy save money on energy expenses. Lower electricity costs for industrial, commercial, and residential customers are responsible for \$118 billion in net annual savings (see Figure ES.6).

Figure ES.6. The Source of Savings in 2030 (Blueprint case vs. Reference case)



Consumers and businesses see \$255 billion in net annual savings in 2030 under the Blueprint (in 2006 dollars). Consumers and businesses in the transportation sector reap the largest share. Residential, commercial, and industrial consumers each gain just under 20 percent of the net savings, with nearly 90 percent of that amount—or \$118 billion—stemming from lower electricity costs.

The Blueprint Cuts Emissions in Each Sector

Blueprint policies dramatically reduce carbon emissions from power plants. Under the Blueprint, carbon emissions from power plants are 84 percent below 2005 levels by 2030. Sulfur dioxide (SO₂), nitrogen oxides (NO_x), and mercury pollution from power plants are also significantly lower, improving air and water quality, and providing important public health benefits.

Most of these cuts in emissions come from reducing the use of coal to produce electricity through greater use of energy efficiency and renewable energy technologies. For example, energy efficiency measures – such as advanced buildings and industrial processes – and high-efficiency appliances, lighting, and motors reduce demand for electricity by 35 percent below the Reference case by 2030. The use of efficient combined-heat-and-power systems that rely on natural gas in the commercial and industrial sectors more than triples over current levels, providing 16 percent of U.S. electricity by 2030. And largely because of a national renewable electricity standard, wind, solar, geothermal, and bio-energy provide 40 percent of the remaining electricity.

Hydropower and nuclear power continue to play important roles, generating slightly more carbon-free electricity in 2030 than they do today. Efforts to capture and store carbon from advanced coal plants, and new advanced nuclear plants, play a minor role, as our analysis shows they will not be economically competitive with investments in energy efficiency and many renewable technologies. However, carbon capture and storage and advanced nuclear power could play a more significant role both before and after 2030 if their costs decline faster than expected, or if the nation does not pursue the vigorous energy efficiency and renewable energy policies and investments we recommend.

Industry and buildings cut fuel use through greater energy efficiency. By 2030, a drop in direct fuel used in industry and buildings accounts for 9 percent of the cuts in carbon emissions from non-electricity sources under the Blueprint.

Transportation gets cleaner, smarter, and more efficient. Under the Blueprint, carbon emissions from cars and light trucks are 40 percent below 2005 levels by 2030. Global warming emissions from freight trucks hold steady despite a more than 80 percent growth in the nation's economy. However, carbon emissions from airplanes continue to grow nearly unchecked, pointing to the need for specific policies targeting that sector. Overall, carbon emissions from the transportation sector fall 19 percent below 2005 levels by 2030 – and more than 30 percent below the Reference case.

Much of the improvement in this sector comes from greater vehicle efficiency and the use of the lowest-carbon fuels, such as ethanol made from plant cellulose. Measures to encourage more efficient travel options – such as per-mile insurance and congestion fees, and more emphasis on compact development linked to transit – also provide significant reductions. Renewable electricity use in advanced vehicles such as plug-in hybrids begins to grow significantly by 2030.

These advances represent the second half of an investment in a cleaner transportation system that began with the 2007 Energy Independence and Security Act.⁸ These investments provide immediate benefits and will be essential to dramatically cutting carbon emissions from the transportation sector by 2050.

Blueprint Cuts Are Conservative and Practical

The Blueprint includes only technologies that are commercially available today, or that will very likely be available within the next two decades. Our analysis excludes many promising technologies, or assumes they will play only a modest role by 2030. We also did not analyze the full potential for storing more carbon in U.S. agricultural soils and forests, although studies show that such storage could be significant.

Our estimates of cuts in carbon emissions are therefore conservative. More aggressive policies and larger investments in clean technologies could produce even deeper U.S. reductions.

Recommendations: Building Blocks for a Clean Energy Future

[Beyond the Climate 2030 Blueprint – Technologies for Our Future](#)

Our analysis did not include several renewable energy and transportation sector technologies that are at an early stage of development, but offer promise. These include:

- Thin film solar
- Bio-power with carbon capture and storage
- Advanced geothermal energy
- Wave and tidal power
- Renewable energy heating and cooling
- Advanced storage and smart grid technologies
- Dramatic expansion of all-electric cars and trucks
- High-speed electric rail
- Expanded public transit-oriented development
- Breakthroughs in third-generation bio-fuels

Given the significant savings under the Blueprint, building a clean energy economy not only makes sense for our health and well-being and the future of our planet, but is clearly also good for our economy. However, the nation will only realize the benefits of the Climate 2030 Blueprint if we quickly put the critical policies in place – some as soon as 2010. All these policies are achievable, but near-term action is essential.

An important first step is science-based legislation that would enable the nation to cut heat-trapping emissions by at least 35 percent below 2005 levels by 2020,⁹ and at least 80 percent by 2050. Such legislation would include a well-designed cap-and-trade program that guarantees the needed

emission cuts and does not include loopholes, such as “safety valves” that prevent the free functioning of the carbon market.

Equally important, policy makers should require greater energy efficiency and the use of renewable energy in industry, buildings, and electricity. Policy makers should also require and provide incentives for cleaner cars, trucks, and fuels and better alternatives to car and truck travel.

U.S. climate policy must also have an international dimension. That dimension should include funding the preservation of tropical forests, sharing energy efficiency and renewable energy technologies with developing nations, and helping those nations adapt to the unavoidable effects of climate change.



Impact of the Blueprint Policies in 2020

A central insight from the Blueprint analysis is that the nation has many opportunities for making cost-effective cuts in carbon emissions in the next 10 years (through 2020). Our analysis shows that firms subject to the cap on emissions find it cost-effective to cut emissions more than required — and to bank carbon allowances for future years. Energy efficiency, renewable energy, reduced vehicle travel, and carbon offsets all contribute to these significant near-term reductions.

By 2020, we find that the United States can:

- Achieve, and go beyond, the cap requirement of a 26 percent reduction in emissions below 2005 levels, at a net annual savings of \$243 billion to consumers and businesses. The reductions in excess of the cap are banked by firms for their use in later years to comply with the cap and lower costs.
- Reduce annual energy use by 17 percent compared with the Reference case levels.
- Cut the use of oil and other petroleum products by 3.4 million barrels per day compared with 2005, reducing imports to 50 percent of our needs.
- Reduce annual electricity generation by almost 20 percent compared with the Reference case while producing 10 percent of the remaining electricity with combined heat and power and 20 percent with renewable energy sources, such as wind, solar, geothermal, and bio-energy.
- Rely on complementary policies to deliver cost effective energy efficiency, conservation, and renewable energy solutions. Excluding those energy and transportation sector policies from the Blueprint would reduce net cumulative consumer savings through 2020 from \$795 billion to \$602 billion.

Conclusion

We are at a crossroads. The Reference case shows that we are on a path of rising energy use and heat-trapping emissions. We are already seeing significant impacts from this carbon overload, such as rising temperatures and sea levels and extreme weather events. If such emissions continue to climb at their current rate, we could reach climate “tipping points” and face irreversible changes to our planet.

In 2007 the Intergovernmental Panel on Climate Change (IPCC) found it “unequivocal” that the Earth’s climate is warming, and that human activities are the primary cause (IPCC 2007). The IPCC report concludes that unchecked global warming will only create more adverse impacts on food production, public health, and species survival.

The climate will not wait for us. More recent studies have shown that the measured impacts—such as rising sea levels and shrinking summer sea ice in the Arctic—are occurring more quickly, and often more intensely, than IPCC projections (Rosenzweig et al. 2008; Rahmstorf et al. 2007; Stroeve et al. 2007).

The most expensive thing we can do is nothing. One study also estimates that if climate trends continue, the total cost of global warming in the United States could be as high as 3.6 percent of GDP by 2100 (Ackerman and Stanton 2008).

The Climate 2030 Blueprint demonstrates that we can choose to cut our carbon emissions while maintaining robust economic growth and achieving significant energy-related savings. While the

Blueprint policies are not the only path forward, a near-term comprehensive suite of climate, energy, and transportation policies is essential if we are to curb global warming in an economically sound fashion. These near-term policies are also only the beginning of the journey toward achieving a clean energy economy. The nation can and must expand these and other policies beyond 2030 to ensure that we meet the mid-century reductions in emissions that scientists deem necessary to avoid the worst consequences of global warming.

ENDNOTES

¹ Unless otherwise noted, all amounts are in 2006 dollars, and cumulative figures are discounted using a 7 percent real discount rate.

² Net savings include both energy bills (the direct cost of energy such as diesel, electricity, gasoline, and natural gas) and the cost of purchasing more efficient energy-consuming products such as appliances and vehicles. The cost of carbon allowances passed through to consumers and businesses is also included in their energy bills.

³ We could not model a targeted way of recycling these revenues. The preferred approach would be to target revenues from auctions of carbon allowances toward investments in energy efficiency, renewable energy, and protection for tropical forests, as well as transition assistance to consumers, workers, and businesses in moving to a clean energy economy. However, limitations in the NEMS model prevented us from directing auction revenues to specific uses. Instead, we could only recycle revenues in a general way to consumers and businesses.

⁴ Values may not sum properly due to rounding.

⁵ In a cap-and-trade system, rather than cutting their emissions directly, capped companies can “offset” them by paying uncapped third parties to reduce their emissions instead. The cap-and-trade program we modeled includes offsets from storing carbon in domestic soils and vegetation — set at a maximum of 10 percent of the emissions cap, to encourage “de-carbonization” of the capped sectors — and from investing in reductions in other countries, mainly from preserving tropical forests, set at a maximum of 5 percent of the emissions cap.

⁶ This means that under the Blueprint the economy reaches the same level of economic growth in October 2030 as the Reference case reaches in January 2030.

⁷ Some or all of the economic benefits of the complementary policies could also occur if policy makers effectively use the revenues from auctioning carbon allowances to fund the technologies and measures included in these policies. Our study did not address that approach.

⁸ Because our Reference case includes the policies in the 2007 legislation, the Blueprint’s 30 percent reduction from that case in 2030 represents benefits beyond those delivered from the fuel economy standards and renewable fuel standard in the act. If our Reference case did not include the provisions in the act, Blueprint transportation policies would deliver nearly a 40 percent reduction compared with the Reference case.

⁹ Note that this recommendation encompasses more possibilities for reducing emissions than we were able to model in UCS-NEMS. For example, investments in reducing emissions from tropical deforestation could help meet this 2020 target. The Blueprint reductions can and should be supplemented by these and other sources of emissions reductions.

REFERENCES

Ackerman, F., and E.A. Stanton 2008. *The cost of climate change: What we'll pay if global warming continues unchecked*. New York, NY: Natural Resources Defense Council. Reference online at <http://www.nrdc.org/globalWarming/cost/cost.pdf>.

Intergovernmental Panel on Climate Change (IPCC) 2007. *Climate change 2007: The physical science basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, edited by S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor, and H.L. Miller. Cambridge, UK: Cambridge University Press.

Luers, A.L., M.D. Mastrandrea, K. Hayhoe, and P.C. Frumhoff 2007. *How to avoid dangerous climate change: A target for U.S. emissions reductions*. Cambridge, MA: Union of Concerned Scientists. Rahmstorf, S., A. Cazenave, J.A. Church, J.E. Hansen, R.F. Keeling, D.E. Parker, and R.C.J. Somerville. 2007. Recent climate observations compared to projections. *Science* 316:709.

Rosenzweig, C., D. Karoly, M. Vicarelli, P. Neofotis, Q. Wu, G. Casassa, A. Menzel, T.L. Root, N. Estrella, B. Seguin, P. Tryjanowski, C. Liu, S. Rawlins, and A. Imeson. 2008. Attributing physical and biological impacts to anthropogenic climate change. *Nature*, 453: 353–357.

Sperling, D., and D. Gordon 2009. *Two billion cars: Driving toward sustainability*. New York: Oxford University Press.

Stroeve, J., M. Serreze, S. Drobot, S. Gearheard, M. Holland, J. Maslanik, W. Meier, and T. Scambos 2008. Arctic sea ice extent plummets in 2007. *Eos, Transactions, American Geophysical Union* 89(2):13–20.

CONTRIBUTORS

This analysis was conducted by a large, interdisciplinary team within UCS including energy and vehicle analysts Don Anair, Jeff Deyette, Jeremy Martin, Patricia Monahan, John Rogers, and Sandra Sattler. Modeling support was provided by OnLocation, Inc. John “Skip” Laitner and others at the American Council for an Energy-Efficient Economy (ACEEE) provided an analysis of the impact of greater energy efficiency in industry and buildings. An additional analysis on biomass potential was provided by Marie Walsh at the University of Tennessee. Nora Greenglass and Richard A. Houghton of the Woods Hole Research Center provided expertise on carbon sequestration in the agriculture and forestry sector.

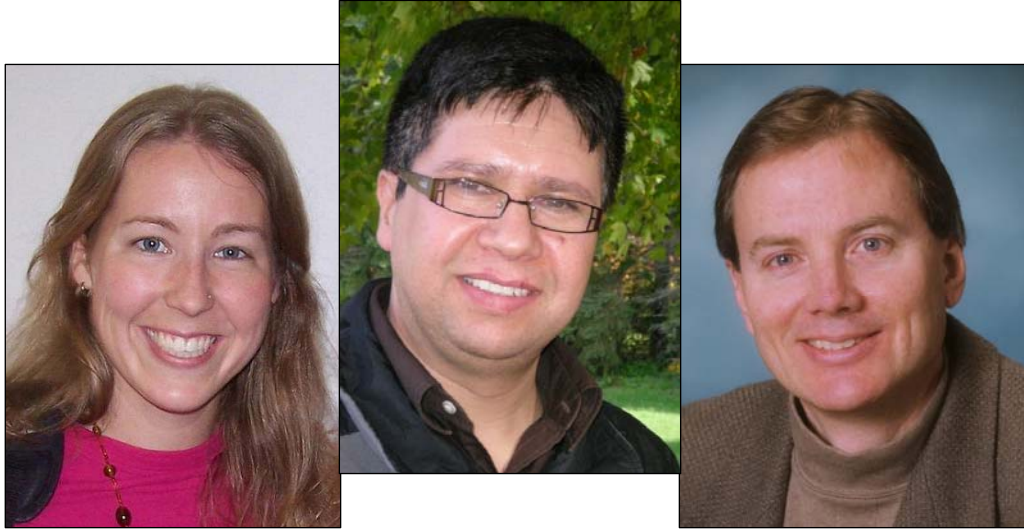
REVIEWERS

Frank Ackerman (Stockholm Environment Institute–U.S. Center), Jeff Alson (U.S. Environmental Protection Agency), Doug Arent (National Renewable Energy Laboratory), Lynn Billman (National Renewable Energy Laboratory), Peter Bradford (Vermont Law School), John Byrne (Center for Energy and Environmental Policy, University of Delaware), Duncan Callaway (Center for Sustainable Systems, University of Michigan), Elizabeth Doris (National Renewable Energy Laboratory), Paul R. Epstein (Center for Health and the Global Environment, Harvard Medical School), John German (International Council on Clean Transportation), Jeffery Greenblatt (Google.org), Christopher A. James (Synapse Energy Economics), Erin Kassoy (The Alliance for Climate Protection), David Kline (National Renewable Energy Laboratory), Chuck Kutscher (National Renewable Energy Laboratory), Daniel A. Lashof (Natural Resources Defense Council), Brenda Lin (American Association for the Advancement of Science), Thomas R. Mancini (Sandia National Laboratories), Jason Mark (The Energy Foundation), William Moomaw (The Fletcher School, Tufts University), Dean M. Murphy, Brian Murray (Nicholas Institute, Duke University), Gregory Nemet (University of Wisconsin–Madison), Joan Ogden (University of California–Davis), Steven E. Plotkin (Argonne National Laboratory), William H. Schlesinger (Cary Institute of

Ecosystem Studies), Monisha Shah (National Renewable Energy Laboratory), Daniel Sperling (University of California– Davis), Laura Vimmerstedt (National Renewable Energy Laboratory), and Michael P. Walsh (international consultant). Organizational affiliations are for identification purposes only. The opinions expressed in this report are the sole responsibility of the authors.

***The Union of Concerned Scientists is a nonprofit partnership of scientists and citizens combining rigorous scientific analysis, innovative policy development, and effective citizen advocacy to achieve practical environmental solutions. Established in 1969, we seek to ensure that all people have clean air, energy, and transportation, as well as food that is produced in a safe and sustainable manner. We strive for a future that is free from the threats of global warming and nuclear war, and a planet that supports a rich diversity of life. Sound science guides our efforts to secure changes in government policy, corporate practices, and consumer choices that will protect and improve the health of our environment globally, nationally, and in communities throughout the United States. In short, UCS seeks a great change in humanity’s stewardship of the earth.**

****The full report is available at <http://www.ucsusa.org/blueprint>.
(c) May 2009 Union of Concerned Scientists. Reprinted with permission.**



Succeeding Through Collaborative Conflict: The Paradoxical Lessons of Shared Leadership

REBECCA PAULSON
University of Massachusetts, Amherst

HABIBULLAH WAJDI
University of Massachusetts, Amherst

CHARLES C. MANZ
University of Massachusetts, Amherst

Introduction

With the advancement of technology and scientific knowledge, our world is experiencing change at a greater speed than ever before. For example, the World Wide Web, which was merely a fantasy two decades ago, now instantaneously connects people from every nation, allowing organizations to share knowledge on a global basis never known before. These dynamic trends and easy access to information are creating vast challenges and opportunities for leading human resources in the

knowledge age. Largely as a result of these forces, shared leadership has moved to center stage as perhaps the most promising new approach for successfully leading global knowledge workers.

Given the increasing movement toward diversity of cultural backgrounds, experiences, and expertise of members of modern organizations, the sharing of leadership in a coordinated and complementary way can be a challenging process. Yet sharing leadership is well suited for contemporary work environments that require flexibility and adaptability. An important part of many contemporary views of leadership, especially during times of significant change, centers on the establishment of a common set of values and facilitation and coordination of activities so that they align and serve those values. This is especially true when leadership is shared among a diverse set of team members. In order for the unfolding influence process to be reasonably coherent and useful to those involved, having members' efforts anchored to a values based purpose for their common work is an essential theme of shared leadership at its best.

Nevertheless, finding the keys for successful application of shared leadership in the workplace can be a tricky, surprising and counterintuitive venture. This article examines the revolutionary transformation of organizational leadership practices from traditional leadership styles to shared leadership. Then we focus on *conflict* as a not only acceptable, but a surprisingly important and necessary ingredient for the successful practice of shared leadership. Drawing from actual cases of shared leadership in a variety of contexts, paradoxical lessons are offered based on a new kind of conflict – collaborative conflict – the key that enables shared leadership to thrive.

Beneficial Conflict; Beneficial Collaboration

There was a time when leaders were viewed as the ultimate authority figures, providers of punishments and rewards, and the holders of all knowledge. For example, Mr. X is the company president and everybody knows it. He can fire or hire people on a whim and no one wants to be on his bad side. He is constantly telling people how to do their jobs and they must come to him to get every last detail approved. Mr. X holds all of the power and authority in the organization and expects his staff to follow his orders without question. This rather extreme caricature of the traditional authoritarian style of leadership still exists today, at least to some degree, in a variety of settings. However, leadership has long since undergone a striking evolution in many organizations that has spread power throughout the workforce through participation, empowerment, and knowledge sharing.

Despite these notable changes, the emergence of shared leadership has moved influence processes to an even more advanced, revolutionary level within knowledge work contexts. The concept of shared leadership first appeared formally in the writings of Gibb in 1954. He posited that organizations were formulated on the basis of shared or “distributed leadership,” and that leadership is best conceived of as a set of functions which must be carried out by a group, as opposed to one individual leader. While many authors have written about the topic, Pearce and Manz (2005), offered a representative description when they defined shared leadership as “a simultaneous, ongoing, mutual influence process within a team, that involves the serial emergence of official as well as unofficial leaders” (p. 134).

In the next sections we will review the evolution of leadership from the traditional authoritarian leader figure to more participative and empowering forms of leadership, culminating in the process of shared leadership and how it contributes to the facilitation of knowledge creation and use. Ultimately we will suggest several paradoxical lessons for successful implementation of shared leadership drawn from actual experience represented by three diverse case studies.

The Past – Traditional Leadership

Human history depicts rich accounts of leadership events: exploring new lands, establishing ancient civilizations and fighting impossible battles. Leadership has always played a crucial role in the countless events in the evolution of humanity, and these deep historical roots shape the origins of leadership as we know it today.

The primitive concepts of leadership relied more on physical might, aggressiveness and the heroism of individual leaders. Subjugation and the ability to bend the will of others were seen as defining characteristics of leadership which were manifested through a tightly controlled, guided and directive approach. This concept of leadership as command and control has been practiced by authoritarian leaders since earliest recorded history and is still alive and well in the world today. Authoritarian leaders ruled by tyranny and oppression and used the fear of their subordinates to obtain obedience. Powerful empires (Greek, Roman, British) as well as infamous leaders (Ghangis Khan, Napoleon, Hitler, etc.) have applied this leadership style.

In this traditional view of leadership, all of the power is vested in a single individual who dictates the roles and responsibilities of his followers. The authoritarian leader does not tolerate conflict and seeks to bend the will of any people or ideas that run contrary to his commands. There is very little room for creativity and innovation under this type of leadership style as followers' roles are dictated by the leader, and questioning the authority figure is strongly discouraged or forbidden. The notion that leaders and their followers might mutually influence one another is largely unthinkable and undesired under the traditional style of leadership.

The Evolution – New Leadership Views, Participation, Empowerment, and Teamwork

Over time, driven by increased competitive pressures, expanded demands and expectations of workers, and a generally dynamic environment, the dominant traditional views of leadership began to change. New concepts emerged such as quality circles, cross functional task forces and committees, self-managing teams, and other participation and empowerment HR vehicles for greater productivity and effectiveness. Especially starting in the 1960s and 1970s, human resource management began to recognize and adopt more empowering leadership concepts that tapped the wider potential of the employees in organizations. These new leadership trends were meant to promote higher performance and quality of life for organization members through participation, teamwork, and a collegial working environment.

Meanwhile, the emergence of globalization and related concepts such as the “global village,” helped foster the rise of vast international organizations whose operations spread around the world. In order to compete in the global market, organizations became multi-faceted, geographically diverse and politically and culturally conscious organizations. Consequently the focus of leadership shifted from models of “power and position” to “relational and interactive” models which focus on expanding teamwork and organizational leadership built on a diversity of viewpoints, orientations and expertise.

As teamwork and empowered teams emerged as successful new components of many organizations, it became apparent that full benefits could not be realized unless members of the teams shared a common “purpose and passion” for the work they do. Teams needed an inclusive and cohesive environment that enabled everyone to contribute and feel they were an important part

of the organization. As a result, the role of leaders evolved toward an empowering style that instilled greater self-reliance and a sense of ownership for teams and their members, frequently built on cohesiveness and consensus.

Nevertheless, this was not the end of the journey. In fact, at times, attempts to empower workers and foster cohesive teamwork have proven counterproductive, especially when such efforts resulted in over conformity and discouraged the kind of idea challenge and conflict necessary for creativity and innovation. The looming threat of Groupthink that arose in teams that prioritized agreement and mutual personal support over reaching the best solutions and decisions is especially reflective of this unexpected pitfall (Janis, 1982). With the exponential growth of knowledge and the consequent need for tapping the expertise and experience of the wider workforce, a new more complex mutual influence process was required. This set the stage for the revolutionary transition to shared leadership.

The Revolution – Everyone a Leader: Shared/Self Leadership

The progression of leadership from traditional and authoritarian to more participative and empowering continued to evolve as thinking about and practice of influence processes progressed. Nevertheless, this evolutionary progression of leadership was not entirely adequate to meet the challenges of the global knowledge-based environment of contemporary organizations. Consequently, a new more robust and complex leadership perspective has emerged. Specifically shared leadership, which balances a team approach to leadership influence with individual self-leadership (Neck & Manz, 2010); an approach where everyone is a leader.

Shared leadership implies that all members of a team are fully engaged in the following ways:

- ✓ Members of a team work together to mutually influence one another creating synergy;
- ✓ Team members are self-leaders and encouraged to step up and take charge at the appropriate time;
- ✓ Power is shared among team members and may transfer from person to person depending on the needs of the team and the individual skills of the team members;
- ✓ Each individual's role is related to their knowledge or expertise thus optimally utilizing organizational knowledge ;
- ✓ Team members are fully empowered by the recognition of their unique capabilities and the power they wield to influence the development of the team.

Again, it is important to emphasize that such a shared approach does not minimize the importance of individual perspective and influence. That is, self-leadership (Manz, 1986) serves as an important foundation for shared leadership as it offers the potential to enable shared leadership to more optimally tap the resources of all involved (Pearce & Manz, 2005). Self- and shared leadership are two relatively new approaches that are shaking up traditional views of organizational leadership. Shared leadership is carried out by a group of interrelated self-leaders who mutually influence one another, work towards a common group goal, and share a common value system. Where you find shared leadership, you find team members who are fully engaged and fully empowered to work towards team goals and lead when they are needed.

The following is an example of shared leadership in practice:

Majeed works for a well known international relief organization and is very satisfied with his work personally, professionally, and ethically. He is working in the emergency environment of

a post-conflict country, which demands quick responses to the needs of war-affected populations. The existence of shared support and leadership amongst the manager, and other staff, who are hierarchically superior and inferior in ranks from each other, has made the work of this organization effective and valuable. The relief work is very meaningful for Majeed and the rest of his team members. They are working for communities who are in dire need of aid in order to ensure their survival. Therefore, in their daily assignments, all employees of this organization experience a deep involvement and a common sense of purpose and direction.

This organization works in an extremely unstable political environment. Most of the time, the staff deals with issues of corruption, mismanagement of aid supplies, and embezzlement of funds by various actors. These issues are complex but they are addressed reasonably well as a result of the sharing of information, participation, decision making and direction which exist in this organization. The internal strength of the organization has helped minimize the effects of negative external pressures and has allowed it to create a shared purpose and value of serving the needy. As a result, the local population has great esteem for the work of this organization. Much of this positive perception can be traced to the organization's use of shared leadership; a truly revolutionary practice in this environment.

Taking Charge and Effecting Change: The Power of One Becomes the Power of Many

In order for shared leadership to be successful, there are certain conditions that must be met. Shared leadership implies the diffusion of leadership responsibilities to many people. If all members of a team are to participate as leaders, and to share leadership responsibilities, a prerequisite set of skills centers on self-leadership. Self-leadership enables members to have the confidence and capacity to step up and take charge when dealing with an issue pertaining to their specific area of expertise. Taking charge is preceded by feelings of self-efficacy. If individuals are confident in their abilities, they are more likely to assert themselves and practice leadership when their influence is required by immediate circumstances. Taking charge is also tied to a sense of responsibility to bring about change, which indicates a certain level of ownership in the work being done.

In effect, self-leadership may well be the precursor to shared leadership. This might seem paradoxical at first, as self-leadership is inherently an individual enterprise, but many of the qualities embodied by self-leaders also lead to enhanced shared leadership practices when those individuals are placed in a team setting. For example, Bligh, Pearce and Kohles (2006), suggest that developing self-leadership among members of a team encourages the development of other necessary behaviors needed for shared leadership. In their article on the importance of self and shared leadership, they argue that trust, potency and commitment are three important elements that derive from team members practicing self-leadership which in turn encourage a ripe environment for shared leadership.

Members of a team must be comfortable with sharing power if shared leadership is to succeed. The idea of mutual influence is what makes shared leadership so appealing. People who make up a team each have different areas of expertise and unique skills that can benefit the group and the project. By combining forces and making use of each individual's unique knowledge, not only is the process more efficient, but organizational knowledge sharing is also optimized. Finally, team members are more fully empowered as they are recognized for their unique abilities and are given

the power to influence the team when dealing with their areas of expertise. This in turn leads to greater commitment to the team and ownership of the process.

The revolutionary shared leadership perspective requires both the self-influence needed to enable members to step forward to share in the leadership process as well as a collaborative stance that equips members to step back and allow others to lead as needed. Thus, members need to be adept in both individual self-leadership and in collaborating with others. Yet there is still one other key ingredient needed for shared leadership to yield real benefits – in addition to getting along with one another members need to be willing to disagree. That is, they need to be willing to have conflict over ideas.

Collaborative Conflict: The Paradoxical Key to Success with Shared Leadership

Most of us feel about conflict the same way we do about snakes – it's best to avoid them at all costs. And this kind of reaction is especially likely when we think about collaboratively sharing power and influence with others. When you hear the word "conflict," what's your first association: anger, tension, discord, dispute? What about diversity, innovation, creativity and organizational growth? As John Dewey once stated, "Conflict is the gadfly of thought. It stirs us to observation and memory. It instigates to invention. It shocks us out of sheep-like passivity, and sets us at noting and contriving" (Dewey, 1922, p. 300).

"Collaborative" and "conflict" are two words that are not normally used in the same sentence. Conflict generally has a negative connotation and is described along the lines of fighting or disharmony between incompatible ideas, people or interests. However, the attitude that conflict is negative or harmful is only a part of the story. If we only view conflict from this limiting perspective we will miss out on powerful opportunities to take advantage of the creative forces of conflict. To reap the fullest benefits from conflict, we have to change how we think about it, and consider it in a whole new light. In particular what is needed is a radical new concept we refer to as "collaborative conflict." So what does collaborative conflict actually mean? In the following section we review three current organizational cases that not only provide specific examples concerning the practice of shared leadership in different team contexts, but also reveal insights about how constructive disagreement (collaborative conflict) plays a key role in enabling the potential benefits of shared leadership to be realized.

Three Case Studies of Shared Leadership

Case Study 1: The Center for International Education.

The Center for International Education (CIE) is part of the School of Education at the University of Massachusetts Amherst. CIE offers graduate level professional training, service and research opportunities in the areas of International Development Education, Education Policy and Leadership and Nonformal/Popular Adult Education. Graduates come from all over the world, including the USA, Africa, Asia, and the Caribbean or Latin America.

CIE's mission states that, "Although part of a traditional university system, the Center is committed to operating as a participatory community where all members take an active role." CIE embodies the principles of shared leadership even though they don't use this specific terminology. If we define

shared leadership according to the previous section as including the following characteristics: (1) reliance on self-leaders, (2) mutual influence through recognition of individual strengths and expertise, (3) power sharing, (4) making the most of organizational knowledge and (5) empowerment, CIE fits every category.

Faculty, staff, current students, and graduates all hold the title of Center member. This includes everyone from the Director of the Center (a title that is seldom if ever used), to the faculty, masters and doctoral candidates, as well as the many graduates who reside all over the globe. Center Members retain that status for life and are expected to contribute long after they leave the physical presence of the Center. Many take leadership or advisory roles on development projects that are established in their countries, others come back on occasion to share experiences and lessons learned, and still others provide valuable apprenticeship opportunities for younger Center members. It is a network that is deeply interconnected and highly valued and which operates on a horizontal playing field.

Classes are run in such a way that it is often difficult to differentiate the professor from the students. Professors drop their titles and “Dr.” status and go by their first names which also serve to flatten the hierarchy of power. Classes are generally held around a common table where animated discussions draw on everyone’s input, or in smaller breakout groups where members then come back and present to the larger class. Since students are all professionals with at least two years of experience working in the developing world, they often have more recent field experiences than the professors, although the professors are all practitioners as well. As such, students frequently lead classes on subjects of which they are knowledgeable, and CIE class structures facilitate a horizontal sharing of knowledge between the professor and students, and among the students themselves. Center members are recognized for their particular skill areas and treated as experts in those fields.

Students are even encouraged to develop and co-teach courses that are of particular interest to them. For instance, in a recent semester, several students with an interest in popular education found that no classes were offered at the Center to fill this need. These students then took the initiative to enlist a faculty sponsor to oversee their work, and developed a syllabus and readings for a Popular Education course which was then offered the following semester.

The Center truly functions as a learning community and a community of practice. All on-campus members meet weekly for dialogue on professional issues, to listen to guest practitioners, and to manage Center activities. They also attend a yearly retreat to reflect on CIE’s history and to plan for its future. Everyone is involved in this process and everyone’s voice is heard.

All Center members have the opportunity to participate in the leadership of the Center. Everyone is expected to pitch in and generally the efforts are spread out across the many Center members. Faculty and staff alike hold equal positions on all committees and students serve on committees ranging from Academic Matters, which helps make decisions about which courses are offered as well as about the course content and format, to the Admissions Committee, in which they, alongside the faculty, review applications for admission to the Center. Students even have a voice in selecting new faculty. When a recent faculty position became available, all Center members had the chance to hear the candidates present at a Tuesday meeting and to interview the candidates as well. All members were encouraged to then provide input as to the preferred candidate. Students are not viewed as students, but as Center members, and as such they are given a role and a responsibility for taking part in anything that will affect them as members of the Center.

There is also a “simultaneous, ongoing, mutual influence process” occurring within the Center. There is constant interaction among members both in and out of the classroom. Members draw on

the incredible diversity of experience among the students and faculty to enhance their own learning. The many committees formed at the Center provide another space for the interchange of ideas and experience. The Center seeks to fully employ its organizational knowledge “by liberating all organizational members with key knowledge to contribute via the potential of both self- and shared leadership” (Pearce & Manz, 2005, p.132). Organizational knowledge is fully employed as each member is expected to take a leadership role and is given the power to influence decisions in their area of expertise.

Since all Center members are empowered, the Center seeks out potential applicants with self-leadership capacities. That is, potential center members should be independent, yet able to work as a team, initiators, yet able to step back when necessary. They should also show a clear responsibility for pursuing their own learning and demonstrate the ability to pursue that learning independently. Demonstrating the initiative to lead you is a prerequisite for joining a team of self-leaders who then share the leadership process. The environment created by this type of power sharing and mutual influence inspires commitment and ownership because everyone is given a voice and everyone is in part responsible for the proper functioning of the Center.

The diversity within the Center is one of its greatest assets. Because everyone comes from such different backgrounds with so many unique experiences, this often leads to conflict. Heads butt and ideas clash but this happens within an environment of trust and collaboration, and this idea conflict leads to much creativity and innovation. Personal conflict is discouraged by the creation of such a tight knit community that develops through shared vision, weekly Tuesday meetings and an atmosphere of collaboration. Conflict is absolutely encouraged, but it’s the kind of constructive conflict that leads to greater productivity.

For example, a Center member who is currently working on an education project with a large International Non-Governmental Organization recently presented about his organization’s work at a Tuesday meeting. At the end of the presentation he fielded lots of seemingly aggressive questions about assumptions implicit in the project design, the lack of local involvement in the project planning, as well as questioning the sustainability of the project itself. An outsider might see this as unkind treatment, but as Center members, there is an implicit agreement to constructively challenge each others’ ideas in order to achieve excellence in everything we do. This kind of collaborative conflict is not only desired, but encouraged, and not taken personally, as illustrated by the pats on the back and hand shakes which took place immediately after the presentation.

Case Study 2: School Management Committees (SMCs) in Afghanistan.

Bringing about change in any context requires a gradual process of evolution. It rarely happens all at once and through the influence of a few individuals. Rural communities in Afghanistan are traditional societies which have resisted social changes in the past which were contrary to their strong imbedded norms and values. These, unilateral, vertically imposed approaches of the past resulted in “development in reverse”. The failure of the authoritative leadership approach to development has led to increasing interest among development organizations to induce change through more participatory mechanisms in order to bring about long-term social development. Participation by all people is a crucial element in the change process. People form groups, teams, unions and associations, and the scale of support or opposition decides the fate of the desired change. We argue that the essence of shared leadership develops within this pluralistic environment, when shared values are developed by inclusion of all voices, and collaborative conflict is encouraged. The following case study of School Management Committees (SMCs) in Afghanistan supports this aspect of collaborative shared leadership.

Since 2004, the Ministry of Education in Afghanistan has adopted a new approach of “Community Grants for School Development” which aim to shift the management of educational activities to communities at the school level. In this new approach, funds are transferred to School Management Committees (SMCs), which are formed through a shared decision making process by community members, teachers and school administrators. Historically, the education system in Afghanistan was based on traditional and vertical leadership models, which were rigid and ineffective in dealing with the harsh educational challenges posed by three decades of conflict.

The aftermath of this extended conflict, which completely dismantled the entire education system, and left behind a substantial lack of technical, human, and financial resources, demanded “out-of-the-box” thinking and interventions to help reconstruct an effective and efficient education system in Afghanistan. The period of conflict also severely weakened the social fabric of the country.

In the beginning, the leadership at the Ministry of Education didn’t buy into the concept of establishing School Management Committees run on a shared leadership model. However, the success of the ancient “Jirgas,” or informal council or convention which is an active decision making forum following shared leadership principles found in most communities in Afghanistan, convinced the Ministry to give it a try. To test its effectiveness, a group of experts started the intervention of SMCs on a small scale. The idea was first piloted in four of Afghanistan’s 34 provinces. Ultimately, the concept became a successful national strategy that is now being implemented in all schools throughout all the provinces of Afghanistan.

In the formation of SMCs, communities are encouraged to share, participate and empower themselves to manage their own schools in order to improve the quality of education for their children. These efforts demand that SMCs work in a participatory, shared environment where all members strive to achieve a common goal of sustainable quality education within their school. Despite many challenges, SMCs have proven to be the most successful educational intervention in the development of education in post-conflict Afghanistan.

SMCs are established by the Ministry of Education (through its provincial and district education offices) through a series of comprehensive social mobilization activities which encourage and guide communities in the participatory processes of managing a school. SMCs normally consist of 7-8 members from diverse interest groups; a school administrator or principal, parents, teachers and community elders. Since every community member cannot participate in the SMC, the community selects members of the committee through a shared decision making process.

After the SMC members are selected, they must prepare a school improvement plan which is then submitted to the Ministry of Education. Once the proposal has been approved, the Ministry of Education transfers funds to the SMC to carry out the proposal. The finances are utilized and managed through a shared leadership process by the SMC members, who equally represent the wishes of their fellow community members. This model of shared leadership, joint teamwork, broad participation, and shared accountability has resulted in a unique sense of ownership and empowerment of communities. SMCs have not only attracted extra community contributions (about 25-40 %, in kind or in cash), but are also further strengthening the core democratic values in traditional communities of Afghanistan. The impact of the SMCs is very powerful in bringing about community development as every member of the community is involved in participative and collaborative ways to understand the change process, and empower themselves to bring about social change or reform.

During one of the author’s visits to various schools where SMCs were established, he noticed that some were much more effective than others at effecting change in their communities. SMCs that

developed an environment of collaborative conflict were also the ones who had accomplished the most. In these committees, every member had the chance to argue his point and to offer his/her best ideas for the development of the school improvement plan (SIP). These SMCs followed a strong shared leadership model where all actors had the opportunity to advocate for their points of view and leadership was passed from one person to the next depending on the topic.

In the past, schools were all managed by the principal who was himself managed directly by the provincial education offices and Ministry of Education officials. Farmers, who make up the majority of parents in rural schools, were never involved in school management decisions before the establishment of SMCs. Under the old system, there was not much incentive for a farmer to visit school and ask about the education of his children. His illiteracy along with the low-status of farming as an occupation was enough to keep him away from the school environment. That is why the traditional perception about education – educating our children is only the school's obligation - remained so dominant and resulted in the slow promotion of education, especially for girls.

The SMCs reduce the power distance between the principal, teachers and parents regardless of their education level or social status, and create a participative and collaborative environment which encourages ownership in the education process. In this collaborative environment, the opinions of each member are valued, respected and questioned until common consensus is achieved. The shared responsibility of managing school activities has resulted in incentives for engagement for both parents and students.

The second type of SMC observed was dominated by the personal influence of the powerful or influential members. In these SMCs there was less participation, involvement and little sense of ownership among the SMC members. For example, in these SMCs the traditional dominant role of the principal (as a formal leader and educational expert), and in some other SMCs the presence of former military commanders (for whom the incentive to be in the SMC was keeping their political influence), left little space for the evolution of shared leadership.

One of the main challenges which came to the surface during the implementation of the SMCs was how to organize the committee so that the voices of the powerless, less influential and marginalized members were heard in the presence of more powerful or influential community members. The shared leadership model was crucial but it didn't happen overnight and in many places the transition from an authoritative style of leadership to shared leadership is still in the early stages.

In all 34 provincial education departments, the Ministry of Education has deployed teams of consultants with technical knowledge in education management, social mobilization, finance and procurement to assist and support the SMCs to effectively implement their projects. These technical support teams help to build capacity in provincial and district education offices, and to empower the SMCs to become self-managed committees. Despite some evident challenges, SMCs are becoming important community based educational organizations which have already demonstrated their effectiveness for achieving sustainable quality education in many rural communities and schools in Afghanistan.

Case Study 3: W.L. Gore and Associates.

Sometimes shared leadership is driven by a strong foundation of individual self-leadership. W.L. Gore and associates is a particularly notable case. Gore is characterized by shared leadership through out the organization with a heavy reliance on employee self-influence within a team oriented culture. This highly successful and innovative provider of wide ranging product offerings from electronic wire

and cable, to industrial and medical products, to fabrics for outdoor sporting activities, relies upon the initiative of all Gore employees (referred to as “associates”). Elsewhere described as being an “unstructured” company that practices “unmanagement,” W. L. Gore encourages its workforce to creatively explore possible applications and uses for the primary material for its products – Gore-Tex – which leads to a continuously growing and evolving array of product offerings. In an article appearing in *Fast Company* (issue 89, December 2004, p. 54) one newly hired associate described her surprise, especially having come from a traditionally run business, that she had no clear sense of who did what and was not formally assigned a boss. She kept asking who her boss was until her sponsor (the person who brought her into the company) told her to “stop using the B-word.”

Gore may well be the flattest substantial organization in the world. Shared and self-leadership are its central influence principles. Organization members are allowed and encouraged to initiate new product ideas by going directly to and teaming with whom ever they feel can help their project without having to go through a chain of command. And, as needed at different stages, these associates step forward to offer leadership based on their expertise and experience without needing to be formally designated as a leader within the firm’s structure. All associates are treated as knowledge workers that are capable of helping to create a promising future for the company through the discovery and creation of innovative new products. And they are allowed and encouraged to provide leadership for one another as the situation and work process requires.

Usually leadership is viewed as an outward process involving the influence of formally designated leaders on followers. However, Gore embraces the kind of self and shared view of leadership described in this article, recognizing that all associates have some capacity to lead themselves and each other. This self-influence based view is reflective of the new requirements of knowledge based work contexts and is a critical part of capturing the optimal potential of leadership influence in contemporary organizations. Going beyond more common participative and empowerment approaches Gore has truly created a whole company of leaders. Even CEO Terri Kelly views herself as primarily an associate just like everyone else at Gore even though she is the top executive. Kelly points out that Gore is so diversified that it is not practical or feasible for a CEO to have the knowledge needed to lead in a leader-centered way. According to Kelly, traditional leadership models not only don’t fit Gore but would impede the innovation process that serves as the lifeblood of the company. She tries to set an overall direction for the firm and to make sure the right people are in the right positions to tap the full knowledge of the organization but empowerment and distribution of authority are key leadership themes for her. And the shared influence example she sets is visible and noticed throughout the company.

A distinctive part of the Gore culture is that it embraces the opportunity for any individual to challenge the status quo in the spirit of optimal creativity and innovation. This can lead to lively discussions with much give and take as associates on current product teams, consistent with healthy *collaborative conflict* that is focused on ideas rather than people, respectfully share counter views with each other in order to move the innovation process forward. In a recent visit to the corporate office of Gore one associate said that healthy debate is a sign of a good team in the company. Healthy disagreement around current thinking is an important part of the creative process at Gore. After singing the praises of the company’s flexible empowering and creative environment, another associate went so far as to say that at times “there is conflict at Gore. People disagree. People (sometimes) don’t get along. There are shake ups ...”

Gore from its inception has recognized the need to transcend traditional leadership approaches that vest control and influence within designated leaders that are assigned formal hierarchical authority. In fact, an associate specifically noted an ability to be selfless and to put the ego aside as being at the heart of identifying potential leaders at Gore. Meanwhile another pointed out that involvement in

leadership continuously varies such that one day you may be a leader 50% of the time and follower 50% in particular areas and then find these roles reversed the very next day. Overall, Gore has fostered less dependence on traditional leader authority figures and has helped fortify the company for successfully meeting the challenges posed in today's highly dynamic, competitive, and complex work environments through the sharing of leadership among highly self-led associates.

Paradoxical Lessons Learned

One overall theme that we can draw from these three case studies is that in order to create an environment where shared leadership can thrive, it is necessary to foster the expectation that each team member will participate and use their unique skills and knowledge to benefit the team. A flat power structure that gives more autonomy to each team member is a breeding ground for creativity and innovation and also leads to a heightened desire to participate and a sense of ownership and commitment to the team. But such a structure is not enough. Paradoxically, in environments where teamwork and power sharing are central to the culture, as in the case of shared leadership applications, constructive (collaborative) conflict is the key to the kind of knowledge sharing and development that is needed for peak performance.

The details of this overall theme of collaborative conflict can be communicated through a set of more specific themes or lessons. These paradoxical lessons of shared leadership reflect some initially unexpected yet, upon closer examination, surprisingly consistent features with a leadership perspective that asks that leaders, designated and emerging, both to lead and step back to allow others to lead within an overall shared influence process. Specifically, we offer five primary lessons and briefly connect them with exemplary details of the previous cases.

1) Optimal Collaboration with others requires a healthy focus on self.

The first paradoxical lesson is that sharing leadership with others in a way that allows collaboration to be at its best, is often founded on a degree of self-centeredness. That is, effective self-leadership of team members is a crucial part of achieving optimal collaboration. At Gore, initiative and self-influence are key parts of its high performance culture. Associates are not only encouraged but expected to lead themselves within a "bossless" "unstructured" system where it can be difficult to identify who you report to. By fostering a whole company of self-leaders who are on the lookout for new opportunities, innovations, and ways to uniquely contribute to the efforts of other associates and the organization's overall performance, an impressive ongoing kind of synergistic team collaboration results that is founded on the combined strength of individual members.

A primary theme that stands out in the case study of the Center for International Education (CIE) centers on a flattened power structure that creates an environment where each individual plays an essential role in maintaining and supporting the Center. All members are recognized for their strengths, skills and expertise which are vital to the proper functioning of the team. Not only are they recognized, but there is also an expectation of participation, involvement, and commitment, and that each member will use their expertise to the benefit of the team. Members are expected to be self-leaders who can step up and take charge when the need arises, and this includes respectfully challenging ideas of other members.

2) Vertical leadership is needed to help assure that leadership is shared.

At W.L. Gore the tone for shared leadership is effectively modeled at the top. While CEO Terri Kelly identifies a goal for her as providing overall direction for the organization, she is quick to point out that she is not about being the top leader of the company. Rather, she states plainly that she is an associate like everyone else who just happens to also be the CEO. Consistent with the remarkably

unstructured and free wheeling organization that she leads, empowerment and distribution of responsibility are primary themes of her leadership philosophy. Other associates look to her as a prime example of what it is to be a good associate at Gore – one who shares in the ongoing team oriented creative process and respects the talents and knowledge of others in the organization, each of whom have their own unique contributions to make. Paradoxically, Kelly’s vertical leadership role is a visible part of Gore’s ongoing shared success, yet she sees her most important contributions as being a good member of the organization, helping other associates find their own best roles and ways to contribute, and making sure they have the power, authority and support they need to excel in innovative ways.

Without the supporting leadership role of the education minister in Afghanistan, the establishment and expansion of School Management Committees would have been an impossible task. The Ministry of Education had to create support mechanisms to foster shared leadership in the SMCs especially in a context where years of conflict had traumatized the education system. They established support offices at the Ministry and provincial levels and hired technical consultants to provide social mobilization and to develop the necessary capacity of the SMCs. Although the SMCs function in a collaborative manner, they are supported and maintained through vertical leadership structures provided by the Ministry.

3) Getting personal can ruin collaboration.

At CIE you learn very quickly to separate your ideas from yourself because your ideas most certainly will be attacked; you will not. The sense of community that is fostered at the Center allows members to feel very safe and comfortable with one another. So much so that when someone presents an opposing idea or viewpoint, it is not viewed as a personal attack, but as an attempt to push one another to consider every angle. The Center member mentioned in the CIE case in this article who presented on his organization’s education work and was greeted with several tough questions, doubtless returned to his organization with new insights which he was able to implement to improve his project. Had he taken those comments personally, not only would it have ruined the climate of collegiality that exists within the Center, but he would have also wasted the opportunity to bring some positive change to his organization.

4) It has been said that “Power Corrupts” but expression of shared power can prevent corruption.

Fortunately for Gore the culture has long since incorporated sharing power as a normal part of the kind of teamwork that pervades the organization. That means that the constructive expression of power by associates – by initiating projects when opportunities are identified, speaking up and challenging commonly accepted views, and generally communicating their unique perspective based on their specific background and expertise – is all part of being a good associate. For Gore, and other organizations that similarly allow shared expression of power, this tends to naturally inoculate the organization against power abuse and the rise of potential corruption. Unfortunately, in other environments where power sharing has not been the norm in the established culture, the issue of potential corruption is much more salient.

For example, in our Afghanistan case the weak institutional capacity, wide scale of corruption in civil service, strong vertical bureaucracy, and power abuse had allowed only very slow development of educational activities. The system was not able to deliver educational services to meet the tremendous needs of about six million school children in post-conflict Afghanistan. To avoid miss-use of power, SMCs are being established in all schools of Afghanistan to share power with schools which lie at the grass-roots level of the education system. The schools which are now being collaboratively led in a shared manner by parents, community members, teachers and school administrators are providing foundations for shared leadership in the primary educational setup of Afghanistan.

5) Creativity and innovation can be supported, not blocked, by idea challenge.

At W.L. Gore corporate performance is built on creativity and continuous innovation. A key part of this is constant search for technology breakthroughs and key innovations that form the basis for future firm performance. The innovation process is significantly driven by interactive challenging discussions of new ideas among corporate associates. As pointed out in the Gore case above, one sign of an effective team is healthy debate. Members frequently discuss creative opportunities and their views on solutions and alternatives for moving new technological and product opportunities ahead. Viewpoints shared are open to challenge and refinement from other Gore associates. A spirit of collaboration underscores the idea conflict that ensues. At Gore collaborative conflict helps promote creativity and innovation.

At CIE, members are constantly aspiring to come up with creative ways of teaching, thinking about problems, and tackling development issues in new and innovative ways. Center members are expected to participate in lively debates and discussions and to present their viewpoint even if, and especially if, it is contrary to the dominant view. This sort of collaborative conflict prevents groupthink where everyone goes along uncritically with the general consensus and squelches any individual dissent. Center members are in fact selected for their diversity of backgrounds, ideas and experience and are expected to use this diversity to challenge one another in the spirit of creative friction which is an essential ingredient of progress.

Conclusion

Shared leadership, founded on a common set of constructive values, may well represent the prototypical kind of influence process that is needed for an ever changing and increasingly knowledge-based world. Yet knowledge about shared leadership itself is still at a relatively early stage of development. In this article we have described three notable cases of shared leadership across a diverse set of work contexts. Based on the experiences reflected in these real life examples, we identified a set of paradoxical lessons reflecting important keys for enabling this challenging and complex team oriented approach to leadership to work. More specifically, we identified the seeming contradictory notions of collaboration and conflict as surprisingly important complementary work processes necessary for optimal shared leadership. In particular, the following are among the paradoxical ingredients of succeeding with shared leadership:

- balancing a focus on self with a focus on others;
- promoting the sharing of leadership through vertical leadership;
- restraining the wielding of power while simultaneously using power to contribute to shared progress;
- supporting others in the spirit of teamwork while also challenging their ideas to enhance the creative process; and
- most of all, getting along with other team members while introducing a healthy dose of constructive conflict.

Author Biographies

Rebecca Paulson, M.Ed. is a practitioner and trainer in the field of International Education Development and has recently worked in Brazil, Senegal, Mali, Benin, Niger and The Gambia. She has also consulted on various education projects for the World Bank conducting trainings on a classroom observation tool to help country governments obtain data about instructional time use in the classroom. Currently she is finishing her Ed.D in Education Policy and Leadership with a specialization in International Education at the University of Massachusetts Amherst.

Habibullah Wajdi, M.A. (International Relations & Development) is an Education Specialist with the World Bank in Afghanistan. He is also a third year doctoral student at the University of Massachusetts Amherst. He has over 15 years of experience at multiple levels of various education systems. He started as a teacher, became a school principal, went on to become the director of a higher education institute, and implemented educational programs as a Technical Education Officer with UNICEF. Currently he is a policy advisor for the planning, design and implementation of educational programs which are financed by the World Bank and implemented by the Ministry of Education and Ministry of Higher Education in Afghanistan.

Charles C. Manz, Ph.D. is a speaker, consultant, and bestselling author of over 200 articles and scholarly papers and more than 20 books including *Mastering Self-Leadership, 5th ed.*, *Fit to Lead*, *The New SuperLeadership*, *The Power of Failure*, Foreword Magazine best book-of-the-year Gold Award winner *Emotional Discipline*, and Stybel-Peabody National Book prize winning *SuperLeadership*. His work has been featured on radio and television and in *The Wall Street Journal*, *Fortune*, *U.S. News & World Report*, *Success*, *Psychology Today*, *Fast Company* and several other national publications. He is the Nirenberg Chaired Professor of Leadership in the Isenberg School of Management at the University of Massachusetts. Formerly a Marvin Bower Fellow at the Harvard Business School his clients have included 3M, Ford, Xerox, General Motors, P&G, American Express, the Mayo Clinic, Banc One, the U.S. and Canadian governments, and many others.

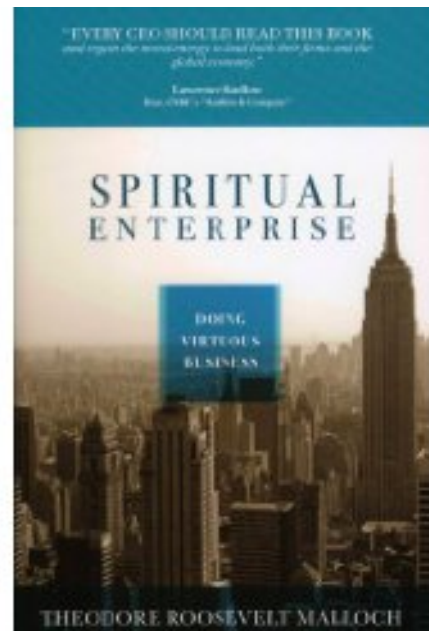
References

- Bligh, M., Pearce, C.L. & Kohles, J. (2006). The importance of self and shared leadership in team based knowledge work: Toward a meso-level model of leadership dynamics. *Journal of Managerial Psychology*, 21 (4), 296-318.
- Dewey, J. (1957). *Human nature and conduct*. New York: Modern Library. [Originally published in 1922].
- Janis, I. L. (1982). *Groupthink: Psychological studies of policy decisions and fiascoes* (2nd ed.). Boston: Houghton Mifflin.
- Manz, C.C. (1986). Self-leadership: Toward an expanded theory of self-influence processes in organizations. *Academy of Management Review*, 11, 585-600.
- Ministry of Education of Afghanistan. (2007). National Education Strategic Plan for Afghanistan: Ministry of Education, Islamic Republic of Afghanistan, Kabul.

- Miwa, K. (2005). Investing in Afghanistan's future, a strategy note on the education system of Afghanistan. Washington DC: The World Bank.
- Neck, C.P. & Manz, C.C. (2010). *Mastering self-leadership: Empowering yourself for personal excellence* (5th Ed.). Upper Saddle River, NJ: Prentice-Hall.
- Pearce, C. L., & Conger, J.A. (Eds.). (2003). *Shared leadership: Reframing the hows and whys of leadership*. Thousand Oaks, CA: Sage.
- Pearce, C. L. & Manz, C. C. (2005). The new silver bullets of leadership: The importance of self and shared leadership in knowledge work. *Organizational Dynamics*, 34, 130-140.



DANE STARBUCK, J.D.* *Reviewer*
INDIANAPOLIS, INDIANA



*Spiritual Enterprise: Doing
Virtuous Business***
Theodore Roosevelt Malloch

Spiritual Enterprise: Doing Virtuous Business

TONY JONES (an Australian television interviewer):

“Prem Sikka, why do you say that more Enron and WordCom style scandals are inevitable?”

PROFESSOR PREMIER SIKKA, ESSEX UNIVERSITY (author of *Dirty Business: the unchecked power of major accountancy firms*, 2001):

“Well, we have to look at the cultural values by which the business people live. We live in a world where the idea of deregulation and enterprise culture has been dominant, and people are told as long as you make money, that is okay. People are fairly used to ducking and diving, trying to avoid rules and regulations to enrich themselves and there is a dominant belief that the company executives should be paid by reference to the profits they publish, and that gives them economic incentive to massage the numbers, because the more they massage the numbers, higher salaries, higher bonuses, higher share options they receive.

So that people are actually being rewarded on a system which encourages exactly what many of us are being concerned about.

- Television interview on “*Lateline*” broadcast January 1, 2002 on the Australian Broadcasting System

Self-discipline, a sense of justice, honesty, fairness, chivalry, moderation, public spirit, and respect for human dignity, firm ethical norms — all of these are things that people must possess before they go to market and compete with each other. These are the indispensable supports that preserve both market and competition from degeneration. Family, church, genuine communities and tradition are their sources.

- **Wilhelm Ropke, A Humane Economy, 1957
(Published in the forward to Spiritual Enterprise)**

Theodore Roosevelt Malloch, founder of the Roosevelt Group, a business strategy company, has written a very important book — Spiritual Enterprise: Doing Virtuous Business (Encounter Books, 2008). Everyone should read it in business. It should be studied. It should be discussed and embraced, especially by academic and business leaders who truly want to know how successful companies operate and endure.

The reason for adopting the book's insights is not solely because of disturbing headlines that have dominated the front pages of newspapers for the past decade: the shenanigans of Enron's Jeffrey Skilling and Kenneth Lay; the dishonesty surrounding convicted felon Bernard ("Bernie") Ebbers' running of WorldCom; and the recently alleged \$50 billion "Ponzi" scheme, apparently long practiced by previously revered investment manager Bernard Madoff.

In years to come, other business scandals will be disclosed — the names and companies will change, but the underlying mischief will be the same: CEOs, board of directors, and others with fiduciary duties will abuse the trust engendered to them for quick personal gain, often to the detriment of shareholders, employees, customers, and the confidence of the general public.

Look at the movers and shakers behind the "sub-prime" mortgage fiasco and you'll find a panoply of managers who were at fault. They were willing to bundle and sell "funny paper" because it gained their banks a quick profit and themselves a promotion or generous bonus. Who wants to hold onto a 6%, 30-year mortgage anymore? How passé! (No doubt, after the free fall of the past few months, there are thousands of out-of-work mortgage brokers who would jump at a chance to manage such a "boring" loan portfolio.)

What we saw prior to the burst of the technology bubble in 1999 and 2000 and the tumultuous stock market tumble of 2008 is a big hype of or run-up in corporate profits and stock prices. Tech gurus and CEOs became the darlings of the business world comparable to many Hollywood movie stars, only to implode — like many stars themselves — due to personal lapses, abuses, self-aggrandizement, and inability to see anything beyond the next business quarterly report and the pay increases, bonuses, and stock options that would follow.

What is left are investors who have lost fortunes, laborers who have lost jobs and pensions, and a disgruntled populace calling for the heads of CEOs, along with greater government oversight of all business. Now even legitimate and well-run companies must pay the price of higher transaction costs and burdensome regulation for the abuses of the few. (Let everyone who is a big fan of *Sarbanes-Oxley* stand up quickly and shout — "All we need is more regulation and another big-name accounting firm to keep this company legal!")

Remarkably, and much to my initial surprise, Malloch does not discuss much about the corporate abuses of recent decades. I initially thought this was a fault or oversight of the book. However, upon a second reading, I understand perhaps why Malloch did not spend much time castigating the “barbarians at the gate.” He knows that Americans are already well-versed about the highly publicized corporate scandals. He preferred to spend his ink discussing truly virtuous businesses and why they are the rule, not the exception — just the opposite in the minds of most readers. Such a shame Malloch’s treatise will probably only sell a fraction of the copies of books like The Smartest Guys in the Room, the best-selling tome that laid open the arrogance of the “Enron gang.”

So what is “Spiritual Enterprise?” And what does Malloch have to say about it that deserves our attention? First, spiritual enterprise is not just a belief or concept that belongs to any one religion, whether that religion is Christian, Judaism, Buddhism, Islam, Hinduism, or any other. Most world religions embrace the qualities that are necessary for spiritual capital to exist. As Malloch observes, this factor explains why too much has been made of Max Weber’s 1921 groundbreaking work, The Protestant Ethic and the Spirit of Capitalism, in explaining the dynamism of capitalism in Western Europe and the United States in recent centuries.

Second, spiritual enterprise recognizes and pays homage to a transcendent being. It is this attribute that distinguishes it from other codes of ethics. One can have a code of conduct (i.e., universities and businesses are rife with elaborate codes of behavior); however, conduct based upon “spiritual enterprise” differs from simply following a mindless list of behavioral norms, because such conduct associates qualities that only make sense through recognition and observance of a God or Creator to whom all humans answer. Thus, any code of conduct can dictate that an owner or employee must be honest and transparent, but only through “spiritual enterprise” does the norms of attitude and behavior include qualities such as “gratitude,” “humility,” and “faith.”

So why, then, is spiritual enterprise so essential to an economically vibrant and prosperous society? Virtue is the basis upon which true wealth is created. It is the underpinning ingredient of the capitalist system; without virtue, contracts cannot hold, employees can’t be trusted not to walk out the door with the shop; and CEOs can’t be trusted not to “cook the books” to hide management ineptitude or malfeasance. But more importantly, because of the pursuit of spiritual enterprise, profit is the “result” of behavior consistent with the belief but not the sole “motive.”

The motives of spiritual enterprise are to manufacture a product or provide a service that satisfies a legitimate need, to treat employees and customers humanely, and to further “hard virtues,” identified by Malloch, such as leadership, courage, patience, perseverance, and discipline, and “soft virtues” such as justice, compassion, forgiveness, gratitude, and humility. If these qualities are pursued with integrity, then profit will likely follow. However, if profit becomes the enterprise’s sole motive, then almost any conduct is justified in its (profit’s) singular pursuit (e.g. sub-prime meltdown, Enron and WorldCom structuring highly questionable deals to inflate corporate earnings and stock prices and then finding auditors who would validate almost any numbers game.)

As Malloch adroitly observes, both those who embrace spiritual enterprise and those who do not benefit from its existence. Yet, only those who follow the tenets of spiritual enterprise add to the reservoir of social capital; those who disregard or flagrantly reject its tenets erode it. Thus, if abuses become too great, we lose faith in the capitalistic system and calls abound for burdensome reform or, in some situations, outright overthrow of free enterprise in preference for business control by a central government.

Malloch’s book deals with the immutable principles that undergird any successful society, not just a society that has achieved economic prosperity. Economic prosperity is the end result of embracing

certain principles. Malloch supports his theory by briefly discussing companies and their leaders who embrace the qualities of “spiritual enterprise.” Here are a few of the many that Malloch highlights:

Courage— Tom Phillips, CEO of Phillips International. Phillips launched his publishing company with two newsletters, three employees, and a \$1,000 start-up investment. By 1996, the company had passed \$1 billion in lifetime sales. It took courage for Tom Phillips to start in his basement and to pursue success in the highly competitive publication world.

Humility— Millard and Linda Fuller, Founders, Habitat for Humanity. Before the Fullers were 30 years old, they had achieved financial success; however, they believed that the pursuit of only business sacrificed their marriage and health. As a result, they searched for a new direction and found it in creating a ministry in housing. To date, Habitat for Humanity has built more than 175,000 homes in 3,000 communities worldwide.

Respect— Michael Volkema, Chairman, Herman Miller. Herman Miller has been ranked as the “Most Admired” company in the furniture industry in *Fortune* magazine’s annual survey of American corporations for 19 of the past 21 years. With 7,000 employee-owners, Herman Miller operates in more than 40 countries and generated more than \$1.7 billion in gross income in 2006. At the top of Volkema’s list of objectives is to treat the company’s employee-owners with the utmost respect.

Patience— Robert Price, CEO, PriceSmart. Price founded PriceSmart, a warehouse retail business, along with his father in 1993. PriceSmart has brought the concept of warehouse retail business to warehouse clubs in 12 different countries. In launching PriceSmart, Robert Price learned the value of patience as he overcame the prospect of bankruptcy in the early years of the company and the loss of his teenage son to brain cancer.

Business schools, corporations, and anyone interested in understanding the foundation upon which enduring wealth, social capital, and corporate longevity is achieved would profit from Malloch’s book. It is more insightful than well-known books like Good to Great or Excellence, because it uncovers the root issues.

Spiritual Enterprise should be required reading in business courses and found on conference tables, preferably open, in corporate boardrooms across America, Europe, Asia, and beyond. It is at our peril if we refuse to acknowledge and embrace this intangible but incredibly important human dynamism.

* Dane Starbuck is a practicing attorney in Carmel, Indiana, and a member or director of several not-for-profit organizations interested in civic and economic education.

**Spiritual Enterprise is available through its publisher, *Encounter Books*, and through major booksellers including Borders, Barnes & Noble, and Amazon.