Growing a Green Corporation

Meeting the next great disruptive challenge of the 21st century

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Summary

I. Executive Summary

Since the Industrial Revolution our society has been driven by an increasing pace of change in business and technology. Every decade or two we have faced a new and disruptive event that challenges business and creates opportunities—the locomotive, the electric light, the automobile, the airplane, the television and the computer, to name a few.

But the greatest disruptive event of the next 20 years may come, not from a single invention, but from the world around us—that is, climate change.

How your business responds to the climate challenge can either differentiate you from the competition and launch new and successful products, or make you the focus of consumer backlash and eroding margins.

This paper will explore the environment as a disruptive force in business, examine the consequences of inaction, and propose the benefits of a proactive environmental policy. It will describe increasing levels of investment that a small company, an enterprise or an industry can make to address the challenge and develop a business case. The paper ends with a concrete roadmap to lead you from today's "business as usual" to a long-term sustainable approach to growing a Green corporation.

After reading this paper, business leaders in every industry will have an understanding of how the environment will impact their business, how to make changes to mitigate the negative impacts and how to explore business opportunities in this new and exciting sustainable world.

Meeting the next great disruptive challenge of the 21st century

II. Muskets, Crossbows and CEOs

In the 18th century, warfare was changed forever. Out were the romantic knights with armor and lances, and in were muskets, artillery and infantrymen. Armies now used gunpowder as an effective means to destroy an enemy from afar. Although early muskets had less fire rate, range and accuracy, firearms allowed anyone to become an effective soldier with very little training. Previous military units like bowman and knights needed years of practice to master their skills. These disruptive changes created an entirely new approach to the art of war.[1]

The prince or king—the CEO of that era—who recognized the disruptive force and seized upon it early gained an overwhelming advantage.

Disruptive change is present in every era. It shifts the underlying forces of society, industry or business. In modern times, we have many examples of industries undergoing a disruptive change: computers, telecommunications, pharmaceuticals, newspapers and music to name a few.[2]

The question facing today's CEO may not be a matter of life and death, but it is vital to business survival: What is the next great disruptive change, and when should you act?

History is littered with the failures of companies that did not see disruptive change or technology: Kodak and the digital camera, BMG and digital music, the minicomputer industry and personal computers, and Dell's entrance into printing, which threatened HP. Fortunately, history reminds us of the success of those willing to ride the wave of disruptive change: the Apple iPod, General Electric, SAP and Oracle.

There are huge rewards for recognizing the indicators of disruptive change. The penalty for lack of response? Struggle, failure, and an ignoble exit.

What in the world is the next disruptive force?

Business leaders in every industry have a powerful interest in figuring out what the next big disruptive change will be. Will society move to e-books? Will voice over IP dominate the future telecommunications industry? Should one throw out a CD collection and move to digital?

Those are important issues, but they pale next to the real change that is coming. The clues to this change are literally all around us: in the air, under our feet and in our water. The single most important issue of our generation is not only threatening how we do business today, it is threatening our society, economy and health.

[1] "18th Century Warfare." Military Factory January 17, 2008 <http://www.militaryfactory.com/battles/18th_century_warfare.asp>.

[2] Berger, Doug. "Leading in Times of Disruptive Change." Conversations on the Cutting Edge August 2005 <http://www.innovate1st.com/newsletter/august2005/DisruptiveChange.html>.

This looming issue is the environment.

Once a concern only for hippies and extremists, the environment has become a pressing issue for everyone living in our world today. In Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value and Build Competitive Advantage, the authors write: "In today's world, no company, big or small, operating locally or globally, in manufacturing or services can afford to ignore environmental issues".[3]

Some may argue about the causes of climate change and the role that humans play. But from a business perspective, there is no question that the environment is fast becoming a driving force behind public, governmental and economic activities around the world.

In short, the environment is the new musket.

Reaching the limits — are we there yet?

As business leaders, we understand there are constraints on our growth. We can be limited by revenue by our headcount. We can only sell as many products as we can purchase parts for or build in a given time. There are only so many hours in a day, people in the factory, and dollars in the bank.

Natural systems have limitations too. Some experts estimate that $33 trillion worth of "free" services are provided by the planet each year, including soil, fresh water, breathable air, pest control and livable climate. These services never appear on balance sheets, but they are beginning to impact businesses.

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At worst, these free services can constrain business, shape markets and threaten the planet. However, these impacts are not immediate—we do not know the timeline of when a resource will become scarce, too expensive, or disappear. All we can do is watch for the indicators.

Some simple indicators from environmental issues that you may already be aware of are environmental laws and regulations, political attacks from Non Governmental Organizations (NGOs), large customers putting pressure on suppliers to be "green" and the speed of developing and holding market share in business today.

One of the fastest growing and most immediate business threats related to the environment comes from investors and stakeholders, who in growing numbers are watching the indicators and asking hard questions about environmental responsibility. Business leaders that ignore these stakeholders can be subject to a public relations scandal, a destroyed market, ended careers, and millions to billions of dollars lost.

Recently, a leading soft drink company learned this the hard way when their bottled water was pulled from the British market for failing European Union

[3] Esty, Daniel, and Andrew Winston. Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value and Build Competitive Advantage. 1st ed. Yale University Press, October 9, 2006.

water quality tests.[4] The same company has been targeted by activists in India for water consumption in drought-prone areas.[5] And in January, 2006, a major U.S. university suspended the purchase of this company's products, in part because of concerns over environmental issues.[6] While it is difficult to measure the full financial impact of these protests, the company has suffered irreparable brand damage in the second most populated country in the world which is growing about 1.5% per year. That is disruptive change.

Apple Computer has also received this message loud and clear, and responded quickly. In 2006, Greenpeace targeted Apple "iWaste" with a "Green my Apple campaign." In the spring of 2007, Greenpeace issued a guide to electronics that ranked major corporations on their reduction of toxic chemicals and electronic waste, with Apple ranked last. This was ill-timed with the release of the iPhone and stockholders took notice. America's most innovative brand cannot afford an environmental attack. Quickly Steve Jobs, the company's CEO, issued a letter that promised a "greener Apple."[7]

More evidence of the importance of this issue was found in the most unlikely spot. Sports Illustrated[8] published a feature on climate change that discussed the impact of climate change on sports. While many readers were irritated by the geopolitical spin of the topic, the article made an interesting point about climate change—it will change the games that we play.

Many companies with well known brands and multinational operations are finding that customers and shareholders are becoming vocal about business practices. Your customers and your bottom line are what are driving climate initiatives and business innovation. That's exactly what makes it so disruptive.

[4] Esty, Daniel, and Andrew Winston. Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value and Build Competitive Advantage. 1st ed. Yale University Press, October 9, 2006.

[5] "Coca-Cola in Hot Water: The world's biggest drinks firm tries to fend off its green critics." The Economist October 6th, 2005 <http://www.economist.com/business/displaystory.cfm?story_id=4492835>.

[6] Hoffman, Andrew. "Coca-Cola Learns a Tough Lesson About Corporate Sustainability." Grist Magazine September 5, 2006 <http://www.indiaresource.org/news/2006/2050.html>.

[7] Specter, Michael. "Big Foot: In measuring carbon emissions, it's easy to confuse morality with science." The New Yorker. February 25, 2008 <http://www.newyorker.com>.

[8] Wolff, Alexander. "Going, Going Green." Sports Illustrated Tuesday March 6, 2007.

III. Why is disruptive change hard to see?

If the disruptive changes are so, well, disruptive, why do we have so much trouble recognizing them in time?

Climate change is merely the latest in a long line of disruptive changes that many business leaders failed to recognize in time. History is littered with stories of companies that failed to see a coming tide or failed to react fast enough or just plain failed.

To take just one example: In the late 1990s, music giant BMG faced changing technology and a move to digital music. In the wave of new competitors, customers and entrepreneurs, BMG struggled to organize to serve this new emerging set of customers. Would this disruptive technology change the way that people buy music or fade away? In February of 2007, we received a resounding answer as iTunes passed Best Buy to become the #2 retailer of music behind Wal-Mart. CDs are becoming a thing of the past and Wal-Mart should be prepared.

Yesterday it was CDs, today it's the environment. Why can't companies see the change coming and take action in time? Here are three reasons that apply no matter what disruptive change is involved.

1. FAILURE TO SEE. First, many business leaders simply fail to see the change. Most market-changing events begin as fringe movements with little recognition or notice. Entrepreneurs may work on an opportunity for years, and fail several times, before the innovation explodes on the stage, seemingly overnight. Social trends begin as a minor blip in buying patterns, but one day they mushroom into market-changing dynamics. It is not so easy to recognize what is coming.

So what about in your business? Do you have a business unit/team/person that is tasked to watch for disruptive change? Are they free to discover possibilities and opportunities and conduct analysis for potential business?

And here is the hard question—when this business unit/team/person brings you this opportunity/threat, what will be your response? Will you follow the road of Polaroid and lose market share to digital cameras, or aggressively pursue calculated risks and enjoy the financial benefits like Apple and the iPod?

2. FAILURE TO ACT. Many businesses recognize disruptive change when they see it coming, just like you may see the issue of environmental responsibility. However, recognizing a boulder in the road and avoiding a crash are two very different things.

Once a disruptive change is identified, it is imperative to plan. You need to understand whether the changes that are coming will fit into your core business or require a new and dedicated business unit.

An environmental example would be the issue of energy management. Is this something that would fit into your facilities management group or would you elevate this to your ethics and/or finance team? Do you need to give the issue executive visibility and tracking? Or can you address energy management through everyday business operations?

3. FAILURE TO PERFORM. We all know that "the road to hell is paved with good intentions." Even after identifying disruptive change and planning for it, a business must implement (perform). As corporate leaders, it may be difficult to make changes, move to new ideas and pursue new avenues of growth; however, these are truly the only things that will keep you in the position of a corporate leader. Here are some tips for embracing and implementing disruptive changes:

- Put someone in a position of power to monitor progress, measure success, and correct the course if needed
- Be willing to explore new ways of doing business
- Be willing to change course if something doesn't work

IV. Assessing the business impact of environmental issues

Identifying, planning and implementing changes in your environmental policies is no simple task. Yet a sober analysis of the facts makes it clear that the effort is justified. The following table is a list of the top five environmental issues and their consequences.

Those are the negative motivators for adapting to environmental responsibility. The positive motivators may be even stronger. Here are just a few of the ways a company can benefit from addressing the environment:

- Increased revenue and market share through
  - o Public relations and market perception
  - o Potentially deploying new products
  - o Differentiating from competition
  - o Increased customer loyalty
  - o Recruiting top talent
  - o Retaining key employees
  - o Employee commitment and buy-in
- Reduced expenses
  - o Materials
  - o Energy
  - o Water use
  - o Product redesign
  - o Material re-use
  - o Packaging
  - o Transportation
  - o Disposal
  - o Waste handling
  - o Landscaping
- Reduced risk
  - o Market risk—meeting legislation and avoid fees and fines
  - o Balance sheet risk—liabilities, insurance losses, property values, financing
  - o Operating risk—from hazardous materials, energy cost volatility
  - o Capital Cost risk—from treatment and pollution control

	Description	Business Consequences
Climate Change	Rising sea levels, change in rainfall patterns, more severe droughts and floods, harsher hurricanes, new pathways for disease	Changes in agriculture industry, ski resorts, insurance industry managing natural disasters, government funding, increase in regulation and legislation
Energy	Energy production damages environment, increasing global need of energy, increasing price of energy	Increase cost to manage operations and facilities, regulation and legislation, market perception, shareholder equity
Water	Rising population and growing economies in drier areas puts stress on quality and quantity	Companies seen to use too much water or damage quality will face political attack, public outcry, intense regulation and potential legal action
Biodiversity and Land Use	Plant and animal life that preserves the existing food chain	Locations of factories or stores, pharmaceutical industry research into plants and animals
Chemicals, Toxics and Heavy Metals	Chemicals in air or water pose severe public health risks like cancer or birth defects	Regulation, cost of handling chemicals and disposal, tracking, legal liability

Table 1:
Top Environmental Issues[10] and Business Consequences

- o Investor support
- o Avoid shareholder backlash
- o Protect brand
- o Increased market capitalization
- o Decreased weighted average cost of capital

While this long list would vary from business to business and industry to industry, you should already be thinking of areas in your operation, product and facility that could be quickly reviewed and assessed to gauge the impact of environmental responsibility.

When banks pay attention, we should too

2007 was truly a year of change in environmental responsibility. Globally, banks moved to outdo each other to support clean energy, climate change mitigation and green building. Europe's largest bank, HSBC, committed to donate $100 million over the next five years to environmental groups, and Bank of America directed $20 billion to green business opportunities. Citigroup, not to be outdone, pledges $50 billion in investments to reduce carbon emissions[9].

In a flurry of commitments to donate, finance and support sustainable initiatives, the financial world has taken notice of this important trend. Shouldn't you?

Building a business around an emotional issue

It is a common sales theory that people make logical decisions for emotional reasons. We buy a car because we logically need one, but we make the choice based on emotion—power, comfort, beauty. If no emotion were involved in the purchase, we would all drive Kia automobiles, and there would be no Lexus luxury.

The environment is an emotional issue. You can test this by bringing up the topic at your next dinner party. Some people are concerned about their children's futures or the impact that climate change will have on our economy. Some will get sad wondering how we continue to let it happen, and others will flatly deny that it is happening. But almost everyone will have strong feelings about it.

This makes it important for your company to understand its role in the world—not just how you see it, but how your public sees it. This will help guide the hard decisions to be made, such as where to invest, why, and how much.

Some projects that fall into social responsibility will pay for themselves or generate revenue: for example, new products and services that promote environmental responsibility or energy saving facility improvements. Other projects are cost-neutral, like recycling campaigns or moving from Styrofoam to coffee cups in the office. Some projects will require investment with a payback in market perception, competitive differentiation or future market opportunities.

And lastly, entirely new markets, services and offerings will open up. An example of a complete new market resulting from the strain on the environment is carbon trading. At first, people laughed at Richard Sandor, President and CEO of the Chicago Climate Exchange. Sandor offered the right to buy and sell shares in the value of reduced emissions. Some people even argue the ethics of hedging on the environment the way that we would interest rates. Ethical or not, this market is approaching $60 billion each year in Europe and growing at a staggering rate[10].

[9] Makower, Joel. "State of Green Business." 2008 <http://www.greenbiz.com>.
[10] Harris, Josh. "Carbon Trading and the Bottom Line." Green CFO Conference. The Barclay Hotel, New York City. March 26, 2008.

V. Investing in Sustainability: Shades of Green

So you're convinced of the business value in "going green," or achieving environmental "sustainability" as it's often called. What exactly is "sustainability" and how much does it cost?

Sustainability is defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs."[11] If you look at this within a business philosophy, you can easily say that you would not make a business decision today that would sacrifice the business tomorrow (at least within normal business operation and ethics). For a company, long-term sustainable growth is important to building a successful company.

To embrace environmentally sustainable development, it is not important that CEOs become tree-hugging hippies, nor is it vital to adopt a "principles before profits" mentality. But it is important to accept the serious impact of the environment on your business.

Stephen Schmidheiny, a leading business and non-profit activist in sustainable development, has written: "When viewed within the context of sustainable development, environmental concerns become not just a cost of doing business, but a potent source of competitive advantage. Enterprises that embrace the concept can effectively realize the advantages; more efficient processes, improvements in productivity, lower costs of compliance, and new strategic market opportunities. Such businesses may expect to reap advantages over the competitors who lack vision.Companies that fail to change can expect to become obsolete."[12]

To build a business case for building a sustainable corporation, you must first ask some hard questions about what you are doing and what you are willing to do. For example:

- Have you completed "the basics": recycling programs and doing away with Styrofoam cups?
- Is your industry or company government regulated to make changes in your facilities or operations?
- Do you have high brand exposure that would lead customers or shareholders to question your sustainability policy?
- What investment (if any) are you willing to make to be environmentally responsible?

[11] <http://www.epa.gov/sustainability/>.
[12] World Business Council for Sustainable Development.

The following figure will help you place your business in a category of investment, from Level 1 to 4—or Shades of Green.

Level 1: The basics, or greening your life

This is the most basic level of sustainability. Here, your ethics or morals should guide you to "do the right thing" and create a proactive approach to sustainability. At this level, employees are environmentally aware, inspired and empowered[13]. They actively seek to participate in recycling programs or internal energy savings program. Each office may be actively trying to cut back on Styrofoam coffee cups by bringing in mugs. These industries could be any business with offices or manufacturing with employees interested in the environment. Companies in highly competitive price-based industries may aim for Level 1 as they would be hard pressed to begin initiatives that add cost.

This level can also be described as risk mitigation. Basic energy reduction projects and compliance with environmental regulations can keep companies on the good side of consumers, the government and watchful NGOs.

In an experiment at its Swiss Headquarters, Dow Europe encouraged mailing lists to be eliminated and senders of memos to receive receipts

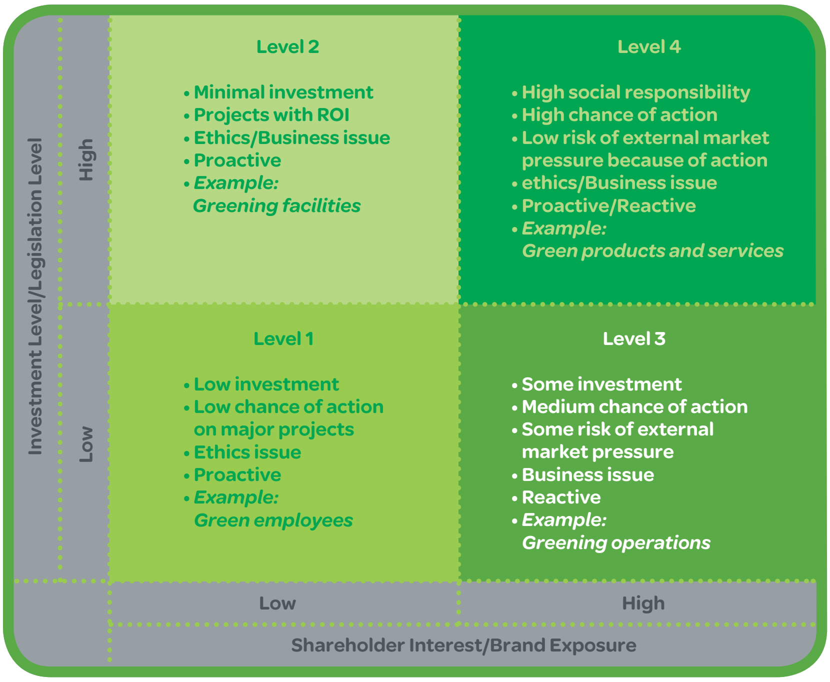

Table 2:
Shades of Green

[13] Townsend, Amy. Green Business: A Five-part Model for Creating an Environmentally Responsible company. Schiffer Publishing, 2006.

indicating if a participant wants to continue receiving the information.

This resulted in a 30% reduction in office paper flow in six weeks. Dow also estimated an increase in labor productivity because people could focus on only what they really needed to read. AT&T reduced paper costs by 15% by simply setting office printers and copiers to print double-sided.[14]

Johnson and Johnson reduced waste by 2,750 tons of packaging and 7,600 tons of paper which equated to $2.8 million and 220 acres of trees annually. This savings came from using a stronger but more opaque paper and designing packaging more thoughtfully.[15] Interface Corporation, a leading maker for materials for commercial interiors, implemented a system for carpet manufacturing in Shanghai that required a liquid to be circulated through a standard pumping loop. Before construction began, an engineer realized that two very simple design changes would cut the power requirement from 95 horsepower to 7—a 92% reduction. The redesigned system cost less to build, involved no new technology and worked better in all aspects. With a simple focus on sustainability, Interface reduced costs and risk.

These simple actions require little to no investment but can serve to motivate employees, increase productivity and reduce expenses.

Level 2: Greening the office

This next level of sustainability may require some investment but can have some return (ROI) if done right. The investment can be minimal compared to the increased shareholder satisfaction or reduce market risk. Businesses targeting Level 2 may plan to use a proactive approach to sustainability to gain market share or hire or retain top talent. Level 2 would include any company with people interested in the environment, but the best payback tends to be in large office buildings (100K to 500K square feet) or manufacturing facilities with an interest in the bottom line but not much external market pressure to be sustainable. Additionally, companies with low market power that rely on very large customers may aim for this level in case they are forced to begin answering questions about environmental performance.[16]

This level can also be called proactive. By taking purposeful steps to improve environmental efforts, companies can decrease cost and increase goodwill with consumers, earning the right to be called a "sustainable business".

Greening your facilities can mean many things and also has many different levels—from minor energy savings projects to holistic energy projects to comprehensive building projects incorporating site development, water savings, energy efficiency, materials and resources selection, and environmental quality. While many projects, like energy and water efficiency, will pay back the investment in a reasonable amount of time, some materials and site development projects require an investment in the facility and in the employees. This returns us to the question of the price of your company's social responsibility. This table lists some simple projects and estimates that different initiatives required.

[14] Lovins, Amory, Hunter Lovins, Paul Hawken, Forest Reinhardt, Robert Shapiro and Joan Magretta. Harvard Business Review on Business and the Environment. (2000).

[15] *Op. cit.*

[16] Esty, Daniel, and Andrew Winston. Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value and Build Competitive Advantage. 1st ed. Yale University Press, October 9, 2006.

Table 3 gives an overview of the investment needed to green a typical facility. Costs will vary based on choices and vendors. Additionally, grouping facility measures together in a holistic building approach will maximize your return on investment (ROI) and minimize your cost.

Many executives pay little attention to facilities, as they account for a small percentage of total business costs. However, it is important to realize that any energy or water savings drop straight to the bottom line and represent a far greater percentage of profits.

The socially conscious Malden Mills, the Massachusetts maker of Polartec, completed a warehouse lighting retrofit that reduced energy use by 93%, improved visibility and paid for itself in 18 months.[17]

Genzyme, a world leader in biotechnology, wanted its new corporate headquarters to reflect the company's mission of making a positive impact on people's lives. The design of the corporate headquarters is a leading edge green facility powered by renewable energy sources and controlled by integrated building systems

that lower operations, maintenance and energy costs while providing a work environment that honors employees' need for natural light and fresh air. The Genzyme Center achieved the Leadership in Energy and Environmental Design (LEED) Platinum rating from the US Green Buildings Council, an organization the drives standards for sustainable facilities. The return on this investment can be measured in increased revenue and market awareness, hiring of top talent and increased employee productivity[18].

Level 3: Greening the plant

Level 3 would include corporations with high brand exposure and some risk of market backlash. These businesses would be looking for some investment opportunities to make their business sustainable because they feel pressure from shareholders to do so, but do not plan to offer green products or services to the market. Industries in Level 3 would include those with increasing potential

Facility M easure	Investment Level
Energy metering and monitoring	Small—6 month simple payback
Energy efficient lighting and controls	Small—1 to 2 year simple payback
Energy management system	Medium—3 to 5 year payback
Change to renewable energy source	Medium—5 to 10% of existing cost
Sustainable materials—carpets and flooring, paint and furniture	Medium to High
Housekeeping—cleaning supplies, pest control	Medium to High
Heating, Ventilation and Air Conditioning upgrades or conversion to natural source	High—7 to 10 year simple payback
Water treatment and efficiency, rainwater collection	High
Building envelope changes—insulation, concerete, windows	High

Table 3:
Energy Savings Facility Improvements and Investment Level[19]

[17] Lovins, Amory, Hunter Lovins, Paul Hawken, Forest Reinhardt, Robert Shapiro and Joan Magretta. Harvard Business Review on Business and the Environment. (2000).

[18] "Genzyme Center." 2 May 2008 <http://www.tac.com/>.

for legislation (like Intel) and those in extremely competitive markets for talent (Citigroup, Intel or Microsoft).[19] Level 3 greening operations can include advanced energy projects for building or manufacturing but also delve deeper into the culture of the company.

Level 3 companies integrate sustainability into the business mission. Because of high impact on the environment, high brand recognition or high social responsibility, these companies incorporate environmental planning into daily activities and may even measure corporate progress on a triple bottom line. The triple bottom line not only measures the economic bottom line but social and environmental impacts, as well.

Sustainable operations goes beyond the traditional mantra of "Reduce, Reuse, Recycle" but adds "Redesign" and "Re-imagine" as well. These activities include closing manufacturing loops, redesigning the supply chain and tracing the environmental footprint of your products and services from raw materials, suppliers, manufacturing, distribution, use and end of life.

This process, called Life Cycle Assessment (LCA), allows manufacturers to truly see the environmental impact of their product and manage their footprint at all levels. Traditionally a car manufacturer may look at the product life cycle like this:

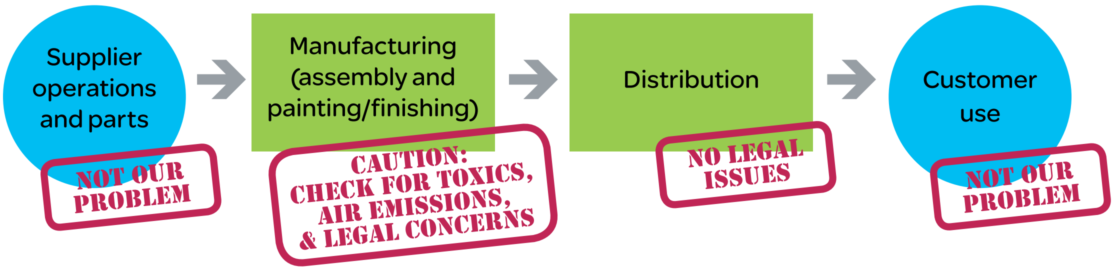

Figure 1: Simple Automotive Value Chain[23]

However, as we have seen in the past, as with issues with the Ford Explorer and Goodyear tires for example, car manufacturers can feel the backlash for suppliers in their value chain. To manage this process, it is important to create an extended value chain:

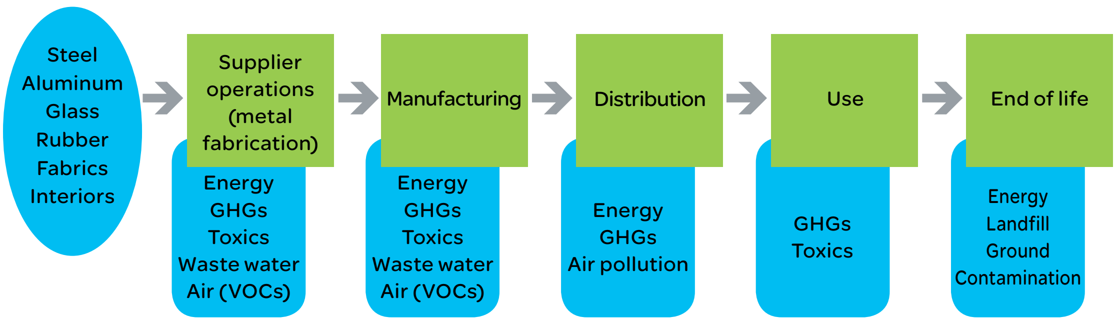

Figure 2: Extended Automotive Value Chain[24]

[19] Esty, Daniel, and Andrew Winston. Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value and Build Competitive Advantage. 1st ed. Yale University Press, October 9, 2006.

With a complete picture of the value chain, the manufacturer would now be ready to ask some questions to improve the company environmentally and suggest sustainable alternatives. For example:

1. Where do the materials come from? What are the suppliers' environmental policies?
2. What emissions are released during fabrication or manufacturing?
3. How much gas will the product use during the "use" phase? What is the cost and impact to the user?
4. What emissions will be released? Will the user be penalized?
5. What happens when the car is taken to the junk yard? Can anything be recycled?

The British car manufacturer Land Rover commits to the environment in many ways and partnered with building automation leader TAC to reduce energy at a manufacturing site. Since 2001, energy per vehicle manufactured was reduced by 28%, water consumption by 13.9% and CO2 emission by 30%. These results drive value with environmentally conscious consumers, reduce cost per vehicle, and reduce risk from legislation and the market[20].

The British oil giant, BP, committed to reducing carbon emissions and ended up saving $1.5 billion in process changes as well. By making a corporate commitment and encouraging employee innovation, BP reduced greenhouse gas emissions, involved employees and had a significant impact on emissions and their business.

Level 4: Riding the green wave

Level 4 includes true environmental stewardship. This requires companies to "do no harm" and asks them to help restore any damage that has already been done. A Level 4 business would be looking to make investments in green products or technologies and bringing them to market. Some examples are Toyota offering the Prius or energy companies offering green energy sources such as wind or hydropower.

This level includes true innovation and is the new frontier of sustainability. Environmental products, technologies and businesses are predicted to drive trillions of dollars in investments in the coming years.

General Electric is pursuing green opportunities, embodied in their slogan "ecomagination," by doubling their investment in environmental products including everything from energy efficient light bulbs to more efficient jet engines.

Other leaders of this movement include Johnson and Johnson, Dupont, Sony, Unilever, Nike, Dow and many more. These companies are making significant investments, not only in environmentally friendly products but an environmentally responsible path that will lower their financial and operation risk while adding degrees of freedom to operating, profit and growth.[21]

The majority of companies in the Level 4 category are typically those with the most to lose by not responding to environmental issues. These companies not only have a high brand exposure and a large number of shareholders, but hold a significant ecological footprint. Most are dependant on natural resources and subject to a high degree of regulations. Though they have a significant amount to gain from the advantages of environmental responsibility, they also have high risk and exposure if they fail to do anything at all.

Also, it may or may not be a coincidence that these green wave-rider companies have significantly outpaced market growth for several consecutive years.

[20] "Land Rover." 2 May 2008. <http://www.tac.com/>.

[21] Esty, Daniel, and Andrew Winston. Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value and Build Competitive Advantage. 1st ed. Yale University Press, October 9, 2006.

VI. Let's Get Honest: The Danger of Faking It or "Greenwashing"

Green·wash (grēn'wŏsh', -wôsh') – verb: the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service[22].

Assuming that you have read this far and are ready to begin on a path to environmental responsibility, it is time for a fair amount of honesty. A growing number of consumers are skeptical about the claims of "environmental" products or services and are becoming educated on what environmental responsibility really means.

A recent study examined 1,018 consumer products bearing environmental claims and found many to be false or misleading. In 2008, the United States Federal Trade Commission will begin to review environmental marketing guidelines for the first time in a decade.[23]

It is important to follow guidelines and report actions accurately to the public. This feels very similar to the drive towards transparency in accounting triggered by the Enron scandal. The best policy, whether the issue is the environment or financing, is to be open and honest: say what you are going to do and then do what you said.

It's also important to publicize the good work that is being done. In 2007, only about 253 companies and a little over 2/3 of the Fortune 100 published corporate social responsibility reports.[24] In the past, these reports have largely focused on health and safety but have grown to include supply chain, diversity and social issues.

CSR reports are an extremely useful tool to engage stakeholders and communicate progress to the market.

Can we really make a difference?

The Clean Air Act of 1990 included the reduction of sulphur dioxides (which cause acid rain) by ten million tons below 1980 levels. Industry leaders predicted it would cost ten billion dollars—in reality, it cost one. While one billion dollars is still significant, it soon became less expensive to reduce emissions than to pollute. This change also spurred the investment of millions in technologies to reduce emissions.

Higher prices and government regulation not only make conservation appealing but can help spark investment to make conservation more financially attractive. A simple example is the cost of energy. As the cost of electricity in the United States soars to $ .25 per kWh in some areas, wind, solar and biomass energy become more cost-effective while reducing pollution. Today, when you buy a plane ticket or a Happy Meal, the value of the carbon used to make these products is not reflected in the price. But will it someday?

[22] "The "Six Sins of Greenwashing" " A Study of Environmental Claims in North American Consumer Markets. November 2007. Terrachoice Environmental Marketing. 2 May 2008.

[23] Makower, Joel. "State of Green Business." 2008 <http://www.greenbiz.com/>.

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VII. Getting Started: Building Your Green Team

To begin on the path to corporate environmental responsibility, it is important to begin with a frank discussion about where you are and where you want to be. Not every company will want to transform their business model to begin offering eco friendly cars and renewable energy. However, it is possible that every company could "fix the basics" and take steps toward reducing their impact on the world.

Start this process with a cross-functional team of individuals in your organization who have some passion around the topic of green or the environment. This team should have some very important rules. Let's call it your "green team."

Rules of the Green Team

Rule 1: Executive support—One member of the team must be from the executive staff to show not only executive buy-in but also have access to the management team so that decisions can be made quickly. The goal of this group member is to:

- Listen openly to ideas from the team
- Guide discussions toward actionable plans
- Set expectations for direction of the team and funding

Rule 2: Commitment—The executive team must commit to reviewing the suggestions and discoveries of the team with the intention to TAKE ACTION. All of your employees will be watching the actions of this team and if every idea is swatted down by the management team then you may be doing more harm than good to morale. Make sure that this team is empowered to make real change in your organization.

Rule 3: Diversity—Other members of the team should be from different divisions, groups and positions.

Have one person from sales, operations, manufacturing/quality, human resources, accounting and maybe even the receptionist! You can designate these members or ask for volunteers

to get the most passionate and engaged people involved in your team.

Rule 4: Size—Limit the size of the team to 10 to 12 people. While this number may seem small for very large organizations, it is very difficult to get anything accomplished in very large teams. HOWEVER, while the team is small, it is possible to have the delegate from manufacturing create his own small team in his group to give him ideas to bring back to the group.

Rule 5: Unleash the creativity of your people!—This is one excellent opportunity to tap the resources that companies spend billions to recruit and retain. Encourage the team to think of creative ideas to reduce waste and energy or increase the durability of products. Make it clear that this is not just a cost-cutting exercise but a way to increase the value of your products while having an impact on the planet.

What should the team do?

In the first meeting, the team can start with a discussion of the 4 levels of green companies discussed earlier in this paper. Are you a Level 1 now and want to be a Level 3? Are you a Level 3 now and just want to find undiscovered opportunities? Make sure that you get the opinion of every team member to see the perspective of the employees. It is possible that the company is already doing very good things that do not get attention.

Inside your company. The next steps of the team could take time—maybe a few months or even a couple of years. You can think of the team as going on a business trip. You must first think about where you are going and what you will need when you get there. Next, you must plan activities for your trip and create a budget for the trip. You also need to ask yourself what will happen if something goes wrong on this trip. How will you get help or change course? So let's begin the journey of the green team.

First, fix the basics. This is one area where the team should have plenty of ideas. The basics include recycling programs and basic energy efficiency measures. This could include a basic environmental awareness program for all employees to understand the impact of their choices on the environment. The company intranet or email could be used for the environmental tip of the week. Team leaders could be equipped to deliver tips and tricks at their weekly meetings. Employees could be encouraged to only print what is needed and all printers set to default to two-sided printing. Have a brainstorming session with the green team, and I am sure there will be many ideas. -sided printing. Have a brainstorming session with the green team, and I am sure there will be many ideas. If you run out of options, Google "green your business." When I harnessed the power of Google to test it, I received over 33 million results in .08 seconds.

Next, begin looking at the long road. These are options within Level 2 and Level 3 of the green business. These opportunities may or may not require investment but will have the largest impact on your business and environmental impact. This step may include mapping the value chain of your products and services or completing a life cycle assessment. You may recruit other employees and experts in processes to come in and speak to the team. Another option is to hire consultants to look into your business but remember that no one knows your business like you do. Partner with external experts in each area of your business for energy reduction and manufacturing changes. They will have ideas from other businesses or even competitors that will help you on your journey.

> Google "green your business" for 33 million results in .08 seconds.

Outside the company. When you have addressed your most urgent business issues, have your team start looking for the "Green Wave," the business transformation opportunity that is on the horizon in your industry. This will come from new and evolving standards in your industry, legislation, competitors' products or completely new ideas entirely. These opportunities would include making sustainability a part of your strategic long-term plan. You may need to change the way you research, develop, manufacture, sell, operate, install, and manage. Finding the next wave requires "out of the box" thinking. An easy place to start would be any area where the company has been in trouble, or when a competitor has been targeted. These areas of turmoil could be viewed as opportunities to transform your business, increase revenue and increase market share while focusing on long-term profitability.

This is one subject you cannot Google. We cannot predict the next Prius. But you have put together the right team. They know your business and can see the opportunity. Go off-site for a day or two. Think. Dream. Imagine.

Have a Plan B. Last, create some contingency plans. Something could always go wrong. Maybe you won't meet your recycling goal. What if the facility reduces its energy use and the price of energy doubles? Make these questions part of your planning. Will you abandon the initiative and try something else? Will you stick with it for a year and try to make it work? As the company implements these projects, make sure that the team and the executive committee is fully aware of the upsides, downsides and risks.

Making suggestions for the company

It is not important that the green team complete this entire process before making suggestions to the executive team. It would be better to make a presentation and recommendation after each of the steps above. The presentation for each suggestion should include:

- A clear simple definition of the action taken (one sentence or less)
- A quantifiable benefit that the company will receive from implementing the action along with intangible benefits (employee satisfaction, morale, etc.)
- An outline of the costs of the program
- Summary of the risks associated with the action
- How the action will be tracked, measured and reported to the executive team and employees

As we read before in Levels 3 and 4, some projects may not have an immediate and quantifiable benefit, or the benefit could hold more risk (new product development). However, there will always be a benefit in terms of positive market perception, employee satisfaction, reduced risk of customer uproar, etc. There is a value in those items to the executive team, and the team's executive sponsor can help.

Here is an example:

Action: Reduce the energy intensity of our product (let's call it a doorstop)

Benefit: Reduce cost of energy by $.03 per doorstop resulting in total company benefit of $30,000 per year

Outline: Initial cost of $100,000 with annual savings of $30,000 resulting in a 3.33 year simple payback (You can go to http://www.teachmefinance.com/ to learn about how to calculate financial benefits to the company)

Risks: Rising prices of energy could decrease benefit. (You could also outline here how much energy costs have risen in the past several years and what impact you think this risk may have)

Tracking: Energy use will be tracked and reported quarterly.

- Other recommendations could include:
- Reduce the material intensity of goods and services
- Reduce toxic dispersion
- Enhance material recyclability
- Maximize use of renewable resources
- Extend product durability
- Increase service intensity of products

Celebrate success!

The most important action of the green team is to celebrate environmental success. This could be on the company intranet or employee newsletter. The company could create press releases or a customer letter explaining what they are doing to help the environment. At this point the team has worked hard, and the company must celebrate wins to continue success and encourage employees to keep taking steps toward environmental sustainability for the company and for themselves.

VIII. Tips for Success

Suggestion 1: Look at the forest, not the trees

To be sustainable, environmentally or financially, it is important to have a long term strategy. Corporations have strategies, and have made investments, in activities such as financial management, product development, and so on. It is time to incorporate the environment into long-term business planning.

Each day businesses spend millions (or billions) on inventory management, order processing and supply chain management. Why not think of the earth's natural resources as a supply chain that can be managed and an inventory that can be measured and monitored?

Suggestion 2: Weight the benefits against the consequences

Much research has been done to quantify the benefits and consequences of a sound environmental approach in business. Benefits include decrease costs and increased revenues while consequences hold the constant risk of lost business or lost supply.

As all CEOs keep an eye on the next big innovation that will change their industry, they should be watching for the next big environmental change that will rock their world.

Suggestion 3: You cannot monitor what you do not measure

The first step in process improvement is measuring. A life-cycle assessment evaluates the environmental impact of a product from its raw materials through disposal. You can evaluate the supply you are taking in, and understand what happens to it through manufacturing, distribution, customer use and disposal. Through this analysis, your corporation can eliminate waste and cost, reduce supplies needed, and add value to your business while having a positive impact on your environmental footprint.

The transition from thoughtless and wasteful action to deliberate conservation starts with education, a change in habits and shift in mind-set. The upside is that these changes are not difficult nor are they expensive. Smart companies can use environmental strategy to innovate, create wealth and build a competitive advantage.

IX. Conclusion

Whether the subject is crossbows and muskets or cassette tapes and digital music, disruptive change always looms on the horizon, and companies ignore it at their peril. A good business leader looks into the future to see trends that can be translated into profitable ideas.

There's no longer any doubt that climate change will be a major force of change over the next few decades, affecting not only business but our societies, our health, and the world itself. Already, shareholders, investors, banks and other economic stakeholders—not to mention the public and governments—are pressuring businesses for environmentally responsible policies.

There are many levels on which a company can address environmental concerns, from basic employee awareness programs to full-blown corporate investment and commitment. Each company needs to understand its own culture and place in the world, and make the appropriate level of "green" investment. Forming a special Green Team in your company to focus efforts and look for future trends will help you stay in front of the wave of change that is fast approaching.

In the end, the question becomes both emotional and personal: How will you respond? Will you be a doubter that says climate change is not real and go back to business as usual? Will you read an whitepaper like this and go home and change your light bulbs? Or will you build a team within your business today that can help you look across the bough of the great ship of your company to the open seas of this opportunity? Will you empower your employees to build a more sustainable life, office and market? Will you see this new trend and set out to be a market leader, transforming the landscape of your industry to increase your profits, market share and revenue, while creating a safer, cleaner environment for your legacy?

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On October 1st, 2009, TAC became the Buildings Business of its parent company Schneider Electric. This document reflects the visual identity of Schneider Electric, however there remains references to TAC as a corporate brand in the body copy. As each document is updated, the body copy will be changed to reflect appropriate corporate brand changes.

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