

Going Green

How environmentally conscious practices and products present a profitable future today.

Table of contents

- Executive summary 4
- Becoming Green 5
 - Pulling together a strategy 5
 - Plotting Green progress 6
- Technology supports Green initiatives 8
 - Performance Management 9
 - Enterprise Asset Management 9
 - Supply Chain Management10
 - Product Lifecycle Management10
 - Enterprise Resource Planning11
- Green brings benefits12
- Ongoing effort14

Executive summary

Forward-thinking companies have embraced Green practices to satisfy customers, comply with regulations and promote positive community relations. Yet many firms are finding—often to their surprise—that Green initiatives aren't just good citizenship, they're good business, too. These companies are developing cost-effective internal processes that encourage environmental stewardship, and they are increasingly tapping revenue-generating market opportunities for products and services where customers are hungry for Green.

For many years a vastly different outlook dominated in the United States and around the globe. Skeptics predicted that Green practices and mandates would dramatically increase costs and stymie growth. But warnings and reports about contamination in emerging markets, global warming, toxic-product dangers and rising energy costs have pushed environmentalism to the forefront of consumers' minds, and, subsequently, forced business leaders to focus on finding cost-effective *and* profitable solutions to these and other environmental problems.

Leading companies anticipate increasing environmental regulation around the globe, and are savvy enough to understand that by demonstrating responsibility they earn a place at the table as rules and policies change—and they're earning market share in the new markets those regulatory changes create. Living in an era when Green leaders win Nobel Peace Prizes has made it dramatically clear that in getting organizations "... to become greener, we are pushing them to become more productive, more innovative, more efficient and more competitive. You can't make a product Greener without making it smarter and more in demand—whether it is a refrigerator or a microchip. Just ask GE or Wal-Mart or Sun Microsystems."¹

What does all this mean? That the most important driver of business challenges and opportunities in our lifetimes (and our children's) will likely be the Green revolution. The challenge is that the earth's resources are limited, but its population is expected to grow by 50 percent over the next four decades. This will create opportunities for every company to develop products and services to address escalating growth and gradually minimize the impact of those inhabiting the planet. As leading companies embark down the Green road, they'll transition from a position of being aware of their environmental responsibility to one of inculcating Green as a *core value* and relying on Green internal processes and product/service offerings as a *core competency*—but only through research, planning, action and investment can this happen.

¹ Thomas L. Friedman, "Who Will Succeed Al Gore," *New York Times*, Oct. 14, 2007.

Becoming Green

Corporations interested in becoming Green are advised to first look within. Assessing and improving the corporate environmental footprint helps build consumer credibility when a company launches Green products (or products and services that help others develop Green products). Fortunately, working internally brings its own benefits. Developing the internal processes and practices that support Green reduce waste, improve efficiency and lower costs. It's good business.

Companies that have made Green a part of the way they operate have a number of environmental levers to pull:

- *Recycling of waste byproducts:* The simple act of offering recycling containers for plastics, paper and glass is a big first step and one that gets workforce attention to going Green.
- *Eliminating pollutants and reducing greenhouse gas emissions:* Among industrial firms this can be a challenging but rewarding effort, and in the process can remove regulatory scrutiny of operations and open up new markets.
- *Conserving resources through the efficient operation of assets:* Every organization should be looking to rationalize its network of locations and facilities, squeezing as much from operations as possible, ramping up or down as demand dictates. Operations improvement approaches such as lean manufacturing help this to happen and also nicely incorporate Green goals into productive outcomes.
- *Satisfying customers:* Not only meeting customer mandates for new green products but also providing current products in a Green manner (i.e., reducing packaging content) is an opportunity for every company.

Companies typically sort through and prioritize their Green options by developing an overall strategy and timeline for how they can be better environmental stewards.

Pulling together a strategy

Green strategic planning requires company-wide (and ideally supply chain-wide) input and collaboration. Depending upon a company's mission, culture, business sector and other factors, going Green will involve a variety of functions and departments such as procurement, materials management, production, shipping and receiving, sales and marketing, etc. Major suppliers and customers also should be involved in the planning processes, as their ideas and early buy-in make for easier and faster adoption of new practices and products later.

This cross-functional Green leadership group can then rate the company's environmental stewardship using a scorecard, assessment mechanism or existing performance management solution to identify realistic goals in a variety of categories (e.g., recycling initiatives, asset management, production practices, product offerings, supplier involvement). By evaluating the gap between current conditions and goals, the group can develop a list of actions/projects required to move the company toward each goal and can assign them to group members, managers and employee teams.

Having mechanisms to gauge Green improvement also will help reinforce a company's Green advances and position in the market, particularly as more and more companies claim Green business practices—"... without measured policies, control mechanisms, and reporting functions, the Green organization has little to show for its investment beyond a few public relations buzzwords."²

Those given the responsibility of managing Green projects and their teams must begin to think in terms of overall business *processes*—not just *inputs* and *outputs*—in order to sustain lasting results. For instance, it may not be a question of whether an approval can be converted from paper to electronic, but a question of whether the approval is even necessary. Real, lasting benefit comes from streamlining processes more than just minimizing inputs and outputs. Keeping a process focus will reduce not just environmental impact and material usage, but also wasted time, motion, energy and human capital.

Plotting Green progress

A Green development timeline keeps companies moving toward where they want to go and defines how to get there in a timely manner (*see the sample Green Timeline*). For example, first milestones are typically positioned for quick wins—projects that can be started easily and will show fast returns, such as a recycle-and-reuse program and other means of resource conservation. This type of activity involves employees immediately, promotes acceptance and enthusiasm, and creates much needed visibility for momentum building. Another common quick win is to replace disposable shipment containers with reusable ones, an initiative that also begins to involve suppliers and customers.

| Green Timeline | |
|---|---|
| Sample staging of a Green rollout and examples of projects/activities in each stage | |
| 1. Low Fruit | <ul style="list-style-type: none"> ■ Recycling and reuse ■ Resource conservation ■ Digital communications and paperless office |
| 2. Practices | <ul style="list-style-type: none"> ■ Efficient use of enterprise assets (e.g., proactive maintenance) ■ Reduce greenhouse gas emissions ■ Eliminate environmentally negative materials ■ Integrate green policies with supply chain partners ■ Green product planning and development |
| 3. Markets | <ul style="list-style-type: none"> ■ Green packaging and delivery options ■ Products launched using recycled materials and components ■ Products launched that can be 100 percent recycled ■ Green products launched in same markets ■ Green products launched in new markets (using same processes) |
| 4. Sustain | <ul style="list-style-type: none"> ■ Regularly reevaluate business practices and operations ■ Continually seek to improve green practices ■ Promote Green within industry and geographic community ■ Grow and expand Green initiatives internally and externally |

After low-hanging Green fruit is picked, timelines advance toward facility management, manufacturing processes, and other activities under the company's internal control. These typically are more difficult Green problems to solve, especially as they begin to involve suppliers and customers. A logical step here is to develop preventative or proactive maintenance programs, which could be as simple as changing out filters on HVAC systems, or integrating in with a building management system to track energy consumption of critical assets. More challenging internal facets start to emerge, such as reducing greenhouse gases and eliminating pollutants and landfill materials.

² Michael Rasmussen, Chris McClean, Jonathan Penn and Alissa Dill, "GRC Should Take The Lead In Green Business," Forrester, May 11, 2007.

Developing Green products *appears* further out on the timeline, in part because most companies tend to cautiously identify market opportunities and how to attack them. But remember that product changes and new product introductions typically require long lead times, especially in complex markets. So while revenue-generating product impact appears later in the Green effort, the planning and positioning for these launches should begin at the outset and be scheduled based on existing product-development cycles. The benefit of this approach is that progress with Green product development can be made while the company gets its internal house in order.

It's important to note—and as product-development cycles indicate—becoming Green is rarely a clearly linear process. Development of new technologies, markets and management ideas or the Green efforts of suppliers and customers could prompt adjustments. This is a healthy sign that Green thinking is becoming part of the overall culture; be flexible and accept changes as long as they move the company closer to previously identified goals.

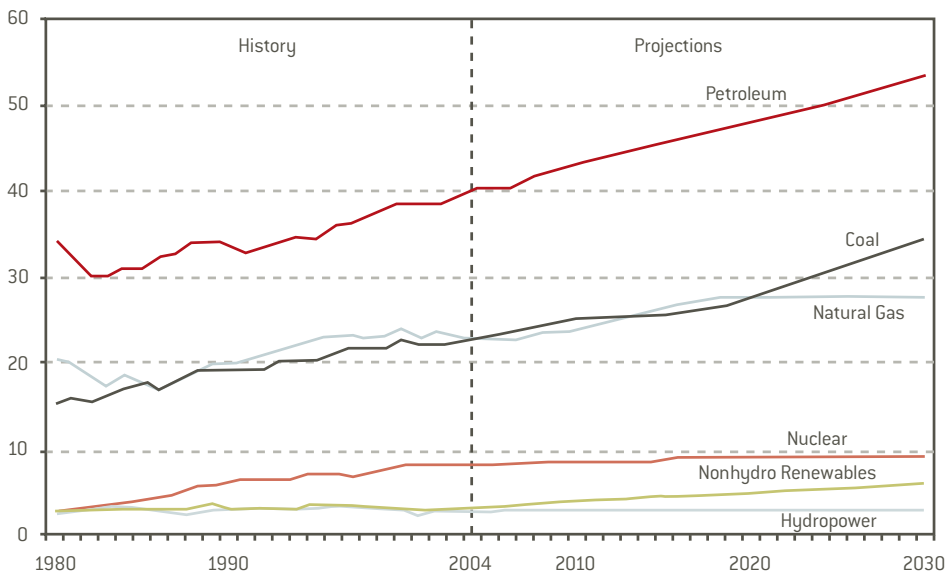
And be certain that Green projects are moving toward goals: Build in regular checkpoints. For instance, the person or team responsible for reducing paper consumption is not done once paper-recycling containers have been distributed. Goals should be revised upward annually, with a per-capita paper-consumption metric monitored to ensure that the program continues to yield benefits.

Technology supports Green initiatives

The foundation for any strategic changes within a company must be accurate data and information. Without rigorous data-gathering and analysis, a shift in corporate approaches to doing business, either internally or externally, can be terribly flawed. Information about resource consumption, emissions management, asset performance, space usage and other capital resources is invaluable for planning, measuring and sustaining Green internal practices.

Good data and the technology that can bring it to decision-makers are especially important when assessing energy consumption strategies. Increased energy consumption and costs have become major obstacles to profitability for manufacturers and distributors. U.S. petroleum, coal, and natural gas consumption is projected to rise relentlessly into 2030 (see chart), and, similarly, the appetite for fuels worldwide is increasing: According to the International Energy Agency, global primary energy demand will rise by 53 percent between 2004 and 2030. Over 70 percent of this increase will come from developing countries, and during this time, energy derived from fossil fuels will dominate, accounting for 83 percent of the overall increase.³

U.S. Energy Consumption by Fuel (1980-2030)
(by quadrillion Btu)



Source: Energy Information Administration

³ World Energy Outlook 2006: Fact Sheet—Global Energy Trends, International Energy Agency, Nov. 7, 2006.

Leading Green companies are using technologies—such as performance management, enterprise asset management, supply chain management, product lifecycle management and, of course, enterprise resource planning—to make strategic decisions related to environmental responsibility, including energy consumption. These applications are being developed and embraced with a keen eye toward the benefits they provide Green efforts. This desire to address environmental issues while boosting business performance will continue to drive implementations. AMR Research projects that by 2010, up to 70 percent of corporate IT spending will be driven by environmental responsibility efforts (a rise from about 30 percent of IT budgets currently based on these efforts).

As companies implement a Green strategy and move along their timelines, projects become more complex and increasingly require investments of capital. And new technologies and applications are investment targets where the business return on investment and Green return are in concert.

Performance Management

Understanding the current, real-time Green position and being able to efficiently transform and monitor the organization are critical to success. Performance management (PM) applications support this effort, especially in multinational companies with locations across the planet. PM helps companies link their overall Green strategy to specific operations plans and increase productivity, control costs, and improve overall business performance—not just get Greener. PM helps:

- Kick off the Green effort by aligning strategies with resources and actions that can be easily measured and monitored, and share that information pervasively across the organization.
- Incorporate Green efforts and monitoring within the spectrum of compliance requirements (e.g., closing books, reporting financials, management reporting).
- Manage and optimize the performance of the company by industry and functional roles.
- Leverage existing enterprise applications to optimize time to market, minimize risk, and achieve the lowest total cost of ownership (a critical component when pulling Green supplier development into the equation).

Enterprise Asset Management

A company with a sophisticated enterprise asset management (EAM) program likely has energy-consumption information for machinery and other assets. A company without EAM or comparable programs will need to invest in them, taking time to gather data before setting goals and identifying required actions.

Snack-food manufacturer Frito-Lay, for example, established a goal of reducing greenhouse gas emissions on a per-pound-of-product basis by 14 percent between 2002 and 2010.⁴ This has helped the company save \$35 million in energy costs since 1999 and prevented 1.6 billion pounds of CO₂ emissions. Frito-Lay achieved these savings with strategies such as variable-speed compressors, leak management, heat-recovery projects and oven-draft control. The company also eliminates one billion gallons of water a year from its processes through ongoing water-conservation programs, and is building solar electricity systems for some facilities.⁵

For energy conservation, businesses need to select technology that gathers information on *all* facility assets—heating and cooling units, chillers, boilers, lighting, anything that consumes energy—and provides staff with intelligence regarding optimal maintenance and replacement schedules based on energy consumption. The usual net result is a reduction in total energy spend even as asset performance and uptime increase.

⁴ U.S. Environmental Protection Agency, Climate Leaders, Partners, www.epa.gov.

⁵ Sheila Kennedy, "Does It Pay to Be Green," *Plant Services*, August 2007.

Supply Chain Management

A significant Green challenge is working with suppliers and customers, such as devising inbound and outbound transportation and distribution networks that use the least amount of fuel and facilities (warehousing, distribution, etc.) while achieving optimal on-time delivery and fulfillment. This becomes particularly important as businesses make cost/benefit decisions for suppliers in a variety of locations.

To support Green strategies, a data-driven SCM program helps provide or support:

- Modeling to determine the most effective number, locations, sizes and capacities of facilities to meet customer-service goals while reducing overall resource use.
- Tactical planning of where and when to make, buy, store and move product.
- Analysis of “carbon miles” (the travel impact of goods on the environment) or other input/output calculations.
- Forecasting tools, web-based collaboration, and sales and operations reporting that help to predict and plan for customer demand with greater accuracy.
- Inventory analysis and stocking calculations to guarantee optimal balance between service levels and inventory investments.
- Production scheduling to minimize waste and level production, which reduces energy consumption associated with ramping up or shutting down between production runs.

Businesses can substantially reduce transportation, inventory, and production costs by using supply chain management to plan the most efficient logistics network possible—and be Greener for the effort. Indeed, most companies have ample opportunities to reduce costs and improve customer service through supply chain management.

Product Lifecycle Management

Most Green benefits that occur by changing practices hit the cost side of accounting statements. But the Green movement offers revenue generators in two ways: alter existing product lines and create new products (for existing and new markets). Here technology is a must in evaluating the myriad opportunities.

For existing products, companies should consider current materials and processes. Can either be altered to create less waste, use renewable resources or remove harmful byproducts while meeting customer demand *and* maintaining profitability? Data and modeling are the key to making good cost/benefit decisions in this area. The same is true for entirely new products, although these decisions can be made at the start of the research and development cycle.

Flexibility and speed in the product development process will become increasingly important as the number of environmental mandates increases and new technologies make possible more environmentally friendly products and processes. Building a data-management and modeling program now that encompasses product lifecycles will provide enormous advantages to Green manufacturers tomorrow.

Data-driven PLM helps companies:

- Consider different rules and specifications when modeling how products will be made (e.g., volatile organic compounds limits; percentage of recyclable packaging or packaging with reduced carbon footprint; materials or product limits by market; and the ability to store, handle, produce and ship materials and product safely).
- Streamline new product development and variations by offering secure access to a single source of product information that ensures consistency and compliance and includes drawings, formulas, bills of material, environmental compliance, engineering change orders, and other documents.
- Identify the best materials, suppliers, existing formulas, packaging and plants to minimize time-to-market and reduce costs while meeting Green goals or compliance mandates.
- Flag items, processes, plants, suppliers and packaging whose use should be minimized. For example, formaldehyde is expected to become a controlled chemical; the company can begin reducing usage now to minimize the future impact of regulation.

Enterprise Resource Planning

The foundation for Green-enhancing technologies is an enterprise resource planning (ERP) system that can help govern the end-to-end control and flexibility needed to deliver Green products amid challenging market conditions as well as reduce unnecessary business expenses and negative environmental impact throughout all stages of a Green rollout. State-of-the-art ERP will do this by helping to:

- Implement electronic payroll and benefits processes to eliminate waste associated with these activities.
- Enhance packaging flexibility to reduce energy costs and decrease material waste associated with repackaging.
- Improve the efficiency of the supply chain and reduce excess costs associated with shipping, receiving, transportation and purchased parts.
- Improve demand planning and forecasting to decrease the waste associated with throwing out expired products.
- Increase first-batch success rates, first-time quality rates, and perfect order rates as new Green products are developed and manufactured, eliminating energy consumption, scrap/waste and costs associated with rework and product returns.

Green brings benefits

The buying public wants to go Green. A study of more than 7,500 consumers in 17 countries in North America, Europe and Asia found that 64 percent of respondents said they would be willing to pay a higher price—a premium of 11 percent on average—for products and services that produce lower greenhouse gas emissions. In addition, 41 percent said they regularly buy products containing recycled material.⁶

Business is and will be driven by revenues and profits. If Green didn't hit the bottom line, it would not be easily embraced by business today or tomorrow. And companies big and small are, indeed, seeing the returns in Green.

The consumer goods giant Unilever ranks high on a list compiled by *The Independent* of the Greenest companies in the UK. Unilever incorporates environmental sustainability into its overall business strategy, pioneered a zero industrial waste policy, is working at developing zero-effluent factories and is implementing a sustainable water initiative.⁷ And it's doing this while the business profits and grows. At the end of the 2007 third quarter, Unilever reported nine-month net profit from continuing operations of €3.27 billion, up 17 percent from €2.79 billion in the prior year, while total sales reached €30.297 billion, 1 percent higher than €29.92 billion in the previous year period.⁸

Another large multinational, General Electric, has seen the Green light. In 2007 General Electric reconfigured manufacturing assets in its consumer and industrial lighting division to produce more environmentally friendly light bulbs. Specifically, the company transferred capacity from incandescent-bulb plants in Brazil and the U.S. to other facilities in the U.S. and Mexico equipped to produce energy-efficient lighting products, such as compact fluorescent light bulbs (CFLs). Over the previous four years, GE had invested \$200 million to ramp up production of energy-efficient lighting in response to dramatic declines in incandescent bulb sales. GE is also adopting a more vertical approach for its Greener light products after determining that this approach is more cost-effective than the horizontal model used for traditional bulb-making.⁹

The compact florescent light bulb demonstrates the rapid growth potential of Green products in a global marketplace. After becoming widely available about five years ago, CFLs have captured about 11 percent of the residential lighting market, according to the U.S. Environmental Protection Agency; interestingly, that number doesn't include large industrial users now using CFLs to reduce energy costs. At the same time, many countries are establishing mandates for CFL conversion. Canada, for instance, will ban the sale of incandescent bulbs starting in 2012.

Large companies such as GE are not the only producers benefiting from this trend. Aurora, Ohio-based TCP Inc., founded in 1993, produced a million CFLs a day in 2007, up from 600,000 a day in 2006, at three overseas factories.¹⁰ The bulbs are sold in markets all over the world.

⁶ "Two-Thirds Of People Will Pay Premium For Green Products," *Environmental Leader* citing an Accenture study, Oct. 18, 2007.

⁷ Karen Atwood, "Green Leaders: A Guide to the World's Greenest Companies," *The Independent*, June 1, 2007.

⁸ "Unilever Announces Q3 2007 Results," www.unilever.com, Nov. 1, 2007.

⁹ "Consumer & Industrial Announces Intention to Restructure its Lighting Business," General Electric, Oct. 4, 2007.

¹⁰ "Aurora Lighting Company's Future Looks Bright," *The Plain Dealer*, Sept. 25, 2007.

This year Subaru of America Inc. reported its best September sales in 20 years (16,457 units), up 2 percent from the same period in 2006. Subaru promotes the fact that it's the first auto manufacturer in North America to achieve zero-landfill status (2004). The company reports that it has applied its environmental consciousness through its whole business stream, including administration offices, distribution warehouses and service technician training centers. The Subaru North American Environmental Committee meets twice annually to review the company's environmental progress and set new goals.¹¹

Along with the three-year anniversary of its zero-landfill plant, in 2007 Subaru celebrated the sale of its 100,000th PZEV (partial zero emissions) vehicle. "We are pleased to mark these milestones," said Tomohiko Ikeda, chairman, president and CEO, Subaru of America Inc. "At Subaru, we are committed to not only maintain an effective environmental management system, but also to integrate sound environmental practices throughout our business."

PZEV vehicles have 90 percent cleaner emissions than the average new vehicle and are the cleanest gasoline vehicles available today. They meet emissions standards that are sometimes even cleaner than some hybrid or alternative fuel vehicles, and have such tight pollution controls that in very smoggy urban areas, exhaust out of the tailpipe can be cleaner than the air outside.¹²

What sector is without high growth potential for Green products or Greener products? Nearly all manufacturers can improve the reuse-and-recycle aspects of their products; suppliers can help, too, as they incorporate more recycled materials into components and parts. As today's consumer appetites for Green products continue to grow, so, too, can the companies reporting gains from such products.

¹¹ www.subaru-earth.com

¹² Sam Abuelsamid, "Subaru Sells 100,000 PZEVs and Sends Nothing to the Dump for Three Years," *Autobloggreen*, July 3, 2007.

Ongoing effort

Like any corporate initiative that seeks to be more than the flavor of the month, it must be firmly entrenched in the standards, habits, hearts, and minds of the workforce; becoming a Green company requires an adoption of conservation principles into the culture of the company. A firm's Green strategy and timeline must be reviewed and updated as often as any other aspect of business performance. This ensures that the organization:

- Fosters good relations and establishes credibility as part of a solution to environmental threats.
- Maximizes asset efficiency to keep costs, consumption, and waste in check.
- Responds to rapidly changing Green improvements in processes and materials, and in consumer demand for Green products.

No company can afford to ignore the widespread consensus that business is a key player in environmental conservation. Savvy businesses recognize the many opportunities they have to do good *and* make profits—now and in the future—regardless of when or where they begin the Green journey.

So begin—today—to develop a Green strategy and timeline, asking:

- How Green is the company right now?
- Where can we quickly make a positive environmental impact (what are employees and customers demanding)?
- Where will the company need to roll up its sleeves and make tough decisions about pollutants and greenhouse gas emissions?
- What products currently lend themselves to “going Green,” and what Green markets are further out on the horizon?

And, lastly: What choice is there but to go Green?

Disclaimer

This document reflects the direction Infor may take with regard to the specific product(s) described in this document, all of which is subject to change by Infor in its sole discretion, with or without notice to you. This document is not a commitment to you in any way and you should not rely on this document or any of its content in making any decision. Infor is not committing to develop or deliver any specified enhancement, upgrade, product or functionality, even if such is described in this document.

Infor Corporate Headquarters

13560 Morris Road
Suite 4100
Alpharetta, Georgia 30004
USA
Phone: +1(800) 260 2640

INFOR™

Copyright © 2009 Infor. All rights reserved. The word and design marks set forth herein are trademarks and/or registered trademarks of Infor and/or related affiliates and subsidiaries. All other trademarks listed herein are the property of their respective owners. www.infor.com.