

THE GREEN BUSINESS *Letter*

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CONSCIOUS COMPANIES

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DEVELOPING NOTIONS

What Poor Nations Can Teach Rich Companies About Sustainability

At first glance, it seems unlikely that companies in developed countries have much to learn about sustainability from their counterparts in developing nations like India. After all, India is among the poorest, most polluted nations on the planet. What could India possibly teach its richer, greener brethren about “meeting the needs of the present without compromising the ability of future generations to meet their needs,” the classic definition of “sustainability.”

Plenty, as it turns out. In India, as in other developing nations, large and small companies are creating profitable new business models that address the needs of those at the bottom of the socioeconomic ladder while often simultaneously addressing pressing environmental concerns.

That’s a conclusion of a recent paper by C. K. Prahalad, professor of business administration at the University of Michigan Business School, and Stuart L. Hart, director of the Sustainable Enterprise Initiative at the University of North Carolina’s Kenan-Flagler Business School. Their findings were seen firsthand by GBL editor Joel Makower during a speaking tour last month in India on behalf of the U.S. Agency for International Development (see p. 8).

Selling to the poor may seem counterintuitive but the opportunities are vast, say Prahalad and Hart in their paper, presented late last year at the Greening of Industry Network annual conference. Those at the bottom of the pyramid — between 3 billion and 4 billion people, or more than half the planet — earn less than \$1,500 a year on average. Few can afford all but the most basic necessities. Based on their income, these citizens don’t appear on most companies’ marketing radar screens.

But that may be shortsighted, say the professors. The newly open markets of China, India, Latin America, Africa, and Eastern Europe have created a vast new market of billions of people. And while demographers

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Reinvention, Redux The U.S. Environmental Protection Agency is holding two public meetings this month to “help us develop and launch a national Performance Track Program,” in the words of Richard Farrell, EPA’s Associate Administrator in the Office of Policy, Economics, and Innovation. The program aims “to motivate and reward top environmental performance” among companies. Farrell says the proposed program “is the culmination of many of EPA’s reinvention pilot projects — such as the Common Sense Initiative, the Environmental Leadership Program, Star Track, and Sustainable Industries” — and builds upon the experience gained in several programs under development in several states.

EPA envisions a two-track program. The first track, as currently envisioned, would offer a standard package of incentives, including public recognition, for facilities that meet certain performance levels. These performance levels are likely to include having a sustained record of compliance, an environmental management system in place, measures for demonstrating environmental performance, and a system for reporting performance to the public. “We are committed to maintaining low transaction costs so that all deserving small and large facilities may participate. Following your input and guidance, we are committed to launching this first phase of the Performance Track in June, 2000,” says Farrell.

Next, the agency hopes to develop a second track “that recognizes and gives incentives to facilities that routinely go well beyond the above performance criteria. Because this group will

be smaller, we anticipate being able to offer higher levels of public recognition and tailored incentives.” The design of this track will begin this summer.

The two half-day meetings are slated for March 15 and 21. Initial background and logistics material for the meetings will be posted at www.epa.gov/reinvent/performance-track. A draft agenda and a more detailed proposal for the first track will be available on the web site by March 7.

To attend, contact John Lingelbach: lingelbach@aol.com, or 303-843-0900. For additional information, contact Marty Spitzer: Spitzer.Marty@epa.gov, or 202-260-4034.

Greener Machines To no one’s surprise, the “greenest” cars tend to be smaller, low-volume vehicles, according to a new edition of an annual guide. Limited-edition vehicles like General Motors’ EV1 or Nissan’s Altra electric cars scored highest among 2000-model vehicles in a study conducted by the American Council for an Energy-Efficient Economy (ACEEE). The most damaging to the environment included popular monster SUVs like GM’s Chevy Suburban and Ford’s behemoth Excursion.

Other vehicles on the “greenest” list include Honda’s gas-powered Civic GX and Insight hybrid car; Toyota’s RAV4 electric small SUV and gas-powered Camry sedan; and Ford’s Ranger electric compact pickup truck. Other gas-powered vehicles on the list are small cars.

ACEEE’s *Green Book: The Environmental Guide to Cars & Trucks — Model Year 2000* rates electric and alternatively fueled vehicles as well as gas and diesel vehicles, and provides advice on

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Joel Makower, Editor

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Finding Environmentally Preferable Copy Paper

Finding photocopy paper that is both recycled and chlorine-free may take some digging. Many products have one or the other attribute, but not many have both. Green Seal has eliminated much of that research in its most recent "Choose Green Report," its well-regarded newsletter that rates business products on environmental attributes. Green Seal has established environmental criteria for copy papers; its "Choose Green Report" offers detailed information on the attributes of 33 copy papers.

Green Seal recommends that when purchasing paper, choose products made with at least 30% post-consumer recycled fiber content, with preference given to the highest post-consumer content percent possible. Also, use papers made from pulp that has not been processed with elemental chlorine and, where possible, without chlorine derivatives.

The Greenest Copy Papers		
Paper	Manufacturer	Contact
Envirographic 100	Badger Paper Mills	800-826-0494
Sandpiper	Domtar Paper	800-6DOMTAR
Eureka! 100	Fort James	800-854-5345
Encore 100	New Leaf Paper	888-989-5323
New Life DP 100	Rolland	800-388-0882
Downtown #3	Arborkem	604-322-1317
Enviroment	Neenah Paper	800-558-5061

SOURCE: "Choose Green Report," Jan.-Feb. 2000. © Green Seal Environmental Partners.

The copy papers in the above table meet Green Seal's criteria, contain at least 30% post-consumer recovered fiber, and are produced without elemental chlorine; in its recent report Green Seal also published a list of papers that contain virgin fibers but use no chlorine or its derivatives.

More information: Green Seal Environmental Partners, 1001 Connecticut Ave. NW, Ste. 827, Washington, DC 20036; 202-872-6400, ext.; 202-872-4324 (fax); www.greenseal.org; greenseal@greenseal.org. ❖

how to buy green when shopping for a new car or light truck.

More information: ACEEE Publications, 1001 Connecticut Ave. NW, Ste. 801, Washington, DC 20036; 202-429-0063; 202-429-0193 (fax); ace3pubs@ix.netcom.com; www.greencars.com.

Spin Cycle Electrolux is among a handful of appliance companies experimenting with selling services instead of products. Faced with tight margins in the manufacturing business, the Swedish-based company, the world's largest maker of white goods, is giving away its products, then charging consumers monthly subscriptions based on

actual usage. The project involves a "smart" energy meter connection in each home that enables the washing machine to be connected to a central database via the Internet. Consumers' electric bills list how many times the machine was used, and charge for every kilowatt-hour of energy they use.

Electrolux hopes to make more money over the long term selling washing services rather than machines, but consumers should benefit, too. If a machine breaks down, service techs are notified immediately and automatically via the Internet. And after 1,000 washes — about 4 to 5 years for the average family — the machine will be replaced with

the latest model, which typically us more energy-efficient.

Climate Savers IBM Corp. and Johnson & Johnson have agreed to participate in a new World Wildlife Fund program to make greenhouse gas emission reductions that outside auditors can verify. WWF's Climate Savers program aims to show that companies can voluntarily achieve worldwide cuts in emissions that equal or exceed those called for under the Kyoto treaty to combat global warming, says program director Rebecca L. Eaton.

Under the program, Johnson & Johnson is working on a list of 150 ways to save energy and hopes to get more ideas from

(continued from page 3)

IBM and other companies that may join the program. The company proposed to cut its emissions of carbon dioxide, methane, and other gases by 7% between now and 2010. For Johnson & Johnson, the step will require curbing emissions from 150 facilities in 50 countries. For IBM, which is proposing to cut projected emissions by 4% a year, the move will cover 30 manufacturing and assembling facilities in 14 countries.

Officials of both companies said the job of cutting emissions is complicated by the fact that they have each already reduced emissions by 20% based on 1990 levels.

To help achieve their targets, IBM and Johnson & Johnson will use the expertise of the nonprofit Center for Energy and Climate Solutions to verify their levels of CO₂ emissions to provide a baseline for their performance in Climate Savers.

More information: Rebecca Eaton, WWF: 202-822-3465, or rebecca.eaton@wwfus.org.

Wrapping Up Savings Texas Instruments has shaved about \$8 million per year (about 20%) off of its transit packaging budget (now at about \$40 million) for its semiconductor business with a combination of source reduction, recycling, and use of reusable-returnable packaging systems, according to Tim Mikus, TI environmental specialist, who will present his findings this month at the Take it Back Pacific Rim Conference. TI achieved its savings through more than 33 actions in 24 material categories. The products include wafers and delicate integrated circuit boards that must be moved to TI's

<i>How Expensive is Gas?</i>				
How expensive is gasoline? Amid widespread consumer and politician grumbling, prices reached their highest levels in nine years last month. But as the table below shows, it's still relatively inexpensive, according to an analysis by petroleum research company John S. Herold, Inc. And while the price of crude oil has nearly tripled in just under 15 months, the price rise, say experts, comes less from price gouging or OPEC conspiring than from increased consumer demand fed by a booming economy and the accelerating sales of sport-utility vehicles and light trucks.				
So, for those grouching about the high price of gasoline, it is important to keep in mind a basic principle of market economics: the best way to lower the price is to lower the demand. Drive smarter, and drive less.				
Product	Price	Size	Ounces	\$/Barrel
Crude Oil (Arab Light FOB)*	\$26.28	1 Barrel	5376 Oz.	\$26.28
Regular Unleaded Gasoline**	\$1.29	1 Gallon	128 Oz.	\$54.14
Coca-Cola	\$0.99	2 Litre	67.6 Oz.	\$78.73
Milk	\$1.79	.5 Gallon	64 Oz.	\$150.36
Evian	\$1.79	1.5 Litre	50.7 Oz.	\$189.80
Budweiser	\$4.79	6 Pack	72 Oz.	\$357.65
Crisco Oil	\$2.19	.25 Gallon	32 Oz.	\$367.92
Scope Mouthwash	\$3.69	24 Oz.	24 Oz.	\$826.56
Ben & Jerry's Chunky Monkey	\$3.29	16 Oz.	16 Oz.	\$1,105.44
Olive Oil	\$10.99	1.5 Litre	50.7 Oz.	\$1,165.33
Head & Shoulders Shampoo	\$4.59	15.2 Oz.	15.2 Oz.	\$1,623.41
Real Maple Syrup	\$4.59	12 Oz.	12 Oz.	\$2,056.32
Tabasco Sauce	\$0.99	2 Oz.	2 Oz.	\$2,661.12
Jack Daniels	\$19.49	.75 Litre	25.3 Oz.	\$4,141.43
Tanning Oil	\$4.99	5 Oz.	5 Oz.	\$5,365.25
Visine	\$5.99	1 Oz.	1 Oz.	\$32,202.24
Flonase Prescription Nasal Spray	\$64.59	16 Grams	0.56 Oz.	\$615,240.95
*spot price on 1/26/00 **AAA U.S. Avg. retail on 1/18/00 SOURCE: John S. Herold, Inc., www.herold.com				

manufacturing customers.

For example, TI eliminated foam peanuts because of recyclability issues, which is especially relevant outside the U.S. to comply with takeback laws. It standardized shipping magazines to polyvinyl chloride, eliminating parts made of other materials to make them recyclable. TI also switched to reusable thermoset trays for chips, and a new closed-loop returnable corrugated box system

for shipping parts to customers.

Power Trip The National Association of Attorneys General (NAAG) has finalized guidelines to control the marketing of green power in the U.S. The "Environmental Marketing Guidelines for Electricity" provide lawmakers with direction on how the electricity industry should advertise. The guidelines apply to all marketing claims about the environmental at-

tributes of electricity products offered by suppliers. NAAG deliberated on the content and wording of the guidelines for almost two years.

The guidelines define “clean” electricity as “any energy source that does not cause significant emissions.” Emissions are “all discharges of matter or energy that have a significant negative impact on the environment.” The guidelines define “renewable” energy as sources that are “naturally replenishable and replenished on some reasonable time scale.”

More information: NAAG, 750 First St. NE, Ste. 1100, Washington, DC 20002; 202-326-6000; 202-408-7014 (fax); www.naag.org.

The Cutting Edge Boxed In: A Canadian firm, DuraKit Shelters (www.DuraKit.com), has introduced a line of recycled cardboard building kits that are lightweight, inexpensive, and strong enough to resist heavy snow loads and Category 2 hurricanes. The target market is the “temporary” housing market, including emergency relief, humanitarian aid, and tourist cabins. . . . Dial ‘D’ for Disposable: Researchers at Motorola and the Massachusetts Institute of Technology are developing a disposable cell phone — a phone literally the size of a credit card that fits inside a 50-cent plastic holder to make it easier to handle. The card would have 12 slim round bumps making up a standard phone keypad, plus a miniature earpiece, microphone, hair-size antenna, and a processor chip, and would come loaded with as many minutes of airtime as you wanted to buy. . . . Bon Mots: An international effort is

under way to develop a multilingual environmental thesaurus to break down the linguistic barriers to environmental information exchange. The thesaurus is intended to improve the efficiency of environmental information systems, Web sites, databases, and other electronic resources. The U.S. EPA, the European Environment Agency, the United Nations Environment Programme, and Italy’s Consiglio Nazionale delle Ricerche are collaborating on the project. The current terminology systems are available at www.epa.gov/trs. . . . Getting the Lead Out: Filtered coffee can remove from 78% to 90% of dissolved heavy metals from tap water, an international scientific team has found. Coffee grounds have a remarkable ability to mop up the heavy metal atoms of such toxic metals as copper and lead from storage tanks, copper pipes, and solder, and from natural sources, according to Australia’s CSIRO Land & Water. . . . Old World Charm: It should be possible to develop a single index of countries’ environmental sustainability, says the World Economic Forum. A pilot index launched during the group’s recent annual meeting in Davos, Switzerland suggests that most of the world’s more sustainable nations are European. The study’s authors stress their results are illustrative only, pending a fuller analysis in 2001. . . . The Belly of the Beast: Thrilled by the wider choice of food that wealth brings, many Chinese people are now consuming the country’s beleaguered wildlife at a rapid rate, reports Environmental News Service. This was evident last month as China celebrated the new year with lavish feasts that included various wildlife specialties.❖

Calendar

(Additional listings can be found on our web site: www.greenbiz.com.)

- **Renewable Energy for the New Millennium** (Mar. 8-10, Sydney Australia; The Meetings Manager Pty: +61 2 9241 2955)
- **National Pollution Prevention Roundtable, Spring 2000 Conference** (Mar. 21-24, Boston, MA; NPPR: 202-466-P2P2)
- **GLOBE 2000: Environment and Business in a Competitive World** (Mar. 22-24, Vancouver, Canada; Globe 2000: 604-775-7300)
- **GEMI 2000: Environment and Business — Sustaining Growth for the 21st Century** (Mar. 27-28, Baltimore, MD; GEMI: 215-428-9655 or rdinc@erols.com)
- **The Environmental MBA School** (Mar. 28-31, Denver, CO; Government Institutes: 301-921-2345 or giinfo@govinst.com)
- **2nd Annual National Green Building Conference** (Apr. 5-7, Denver, CO; NAHB Research Center: 800-638-8556)
- **CERES 2000: Navigating the Networks of Change** (Apr. 13-14, San Francisco, CA; Coalition for Environmentally Responsible Economies: 617-451-0927)
- **International Conference and Exhibition on Life Cycle Assessment: Tools for Sustainability** (Apr. 25-27, Arlington, VA; U.S. EPA: InLCA.Cl@epamail.epa.gov)

DEVELOPING

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and market analysts may have seriously oversold the countless millions of middle-class consumers that would emerge in these markets to buy products and services, the spread of democracy has created huge numbers of “aspiring poor” who are joining the market economy for the first time. Indeed, say Prahalad and Hart, these emerging markets may be “much larger than previously thought.”

Selling to them won't be easy, they say. “The bottom of the pyramid presents a new managerial challenge — one potentially as powerful as the challenge presented by the proliferation of the Internet and e-business. The transformation of the bottom of the pyramid and the creation of a new and emerging market, like the opportunity in e-business, requires a total transformation of managerial practices in established [multinational companies]. It will also transform public policy debates in both developed and developing countries.”

They continue: “Converting the very poor into active consumers will foster innovations in technologies and business models. It will challenge managerial (and public policy) assumptions about sustainable development. Managers will be forced to consider the meaning of scale — the need to marry highly distributed small-scale operations and a few world-scale capabilities — creatively along the value chain. Most importantly, conceiving of a market of 4 billion of the world's poorest people will force a reexamination of the ‘price-performance’ relationships for products and services.”

FROM CREDIT TO COMMUNICATIONS
What do these products and services look like? Prahalad and

Small Is Profitable in India

Company	Product	Enterprise
Arvind Mills	Denim jeans	Arvind, a large textile company and one of the largest denim makers, had limited success in India because denim jeans were too expensive for mass audiences and distribution systems did not extend into rural areas. In response, it introduced a make-it-yourself jeans brand called “Ruf and Tuf.” The \$6 kits include denim, a zipper, and rivets and is distributed through a network of 4,000 tailors in small towns and villages. Ruf and Tuf is now India's largest-selling brand of jeans.
Hindustan Lever Ltd.	Food distribution	HLL developed an innovative “heat shield” technology that allows perishable goods to be transported across India in standard, nonrefrigerated trucks, reducing costs and energy use while reducing the risk of food spoilage and contamination.
Khira District Milk Cooperative	Milk production	Milk in India originates in small quantities in highly decentralized villages, making collection and processing inefficient. The Khira farmers' cooperative developed a highly managed value chain, from village-based milk production to state-of-the-art processing, blending decentralized origination with the efficiencies of a modern processing and distribution infrastructure. The system, which now claims more than 6 million farmers, allows villagers to earn a steady income and has helped India emerge as the world's largest producer of milk.
Nirma	Household detergent	The locally based firm challenged Hindustan Lever (HLL), an India-based subsidiary of Unilever plc, by creating a new business system — a new product formulation, manufacturing process, distribution, packaging, and pricing — targeted to the nation's poor. Nirma is now the world's largest branded detergent maker. In response, HLL has introduced its own detergent product for this market, which it is marketing to the poor in other developing countries.
Various	Internet connections	India has encouraged the creation of a wide range of small, local Internet service providers, with online kiosks spreading throughout urban and rural areas. The connections hold the promise of connecting consumers and producers in new and creative ways and could dramatically lower the costs associated with access, distribution, and credit management for both consumers and businesses.

SOURCE: “Strategies for the Bottom of the Pyramid: Creating Sustainable Development,” by C. K. Prahalad and Stuart L. Hart, 1999

Hart cite four major strategies:

- **Creating buying power** — providing access to credit, breaking the poverty cycle by generating new employment or microenterprise;
- **Shaping aspirations** — providing information on the proper use of products, and consumer education to create “an appropriate consumer orientation”;
- **Improving access** — creating distribution systems that reach

underserved areas, establishing communicating links that provide new income opportunities; and

- **Growing healthy markets** — creating technologies, products, and packaging uniquely tailored to the underclass; creating new business models that respect the lifestyles of poor people.

As Prahalad and Hart point out, “It should be obvious that the four elements of the commercial

infrastructure for the bottom of the pyramid are interlinked. Innovation in one element leverages innovation in others. It should also be clear that corporations are but one of the actors needed to develop this infrastructure. We have seen how critically important [nongovernmental organizations], local and state governments, and communities are to the development process. Yet someone must take the lead to make this revolution happen. The question is, why should multinationals take the lead?"

One reason, they say, is that creating the types of enterprises necessary to take advantage of these opportunities requires significant resources and management expertise — they types that larger companies typically possess but are rare among local entrepreneurs and other stakeholders. Larger companies are able to transfer knowledge gained in one market to other markets, providing a powerful leveraging ability.

Moreover, multinational companies bring key infrastructure that can facilitate powerful relationships with governments, communities, nongovernmental organizations, and local businesses. And larger companies can adapt products developed for lower-income markets for higher-income customers, further leveraging their investments and expertise.

Conclude Prahalad and Hart: "There is every reason to believe that many of the innovations from the bottom can be adapted for use in the resource- and energy-intensive markets of the developed world."

A SLIPPERY SLOPE

Such optimism notwithstanding, developing and marketing goods and services to the underclass is a slippery slope. And not just financially: Companies have been burned — sometimes literally — for failing to fully understand and

pay heed to the local culture, political climate, and sensitivities. Witness Monsanto, whose genetically modified crop seeds offered subsistence farmers the promise of healthy crops with minimal use of pesticides and fertilizers. The company has been charged by critics with a myriad of misdeeds, from destroying family farms to promulgating an environmental Armageddon. When Cargill tried to launch a sunflower seed business in India, its offices were twice burned and the local politicians accused the firm of destroying locally-based seed companies. Shell, Nike, BP Amoco, and even the politically correct Body Shop and Ben & Jerry's are among the many other firms that have stumbled on the road to developing business opportunities in Third World countries, and for their efforts have been pilloried by activists and the media.

Still, there is much potential here, and Prahalad and Hart have articulated a compelling opportunity for companies in a wide range of sectors. Heeding their advice could provide a powerful means of developing profitable long-term relationships with new markets. And, in the process, help narrow the gap between rich and poor, lift billions of people out of poverty and desperation, and avert the social decay, political chaos, and environmental meltdown some observers predict will come from neglecting the half of the world's population that gets by on per-capita income of a few dollars a day.

It's a tall order, but there is an opportunity emerging to truly model the notion of "sustainable development" that has become the lodestar of the new century.

For more information about "Strategies for the Bottom of the Pyramid: Creating Sustainable Development," e-mail Stuart Hart at slhart@unc.edu. ❖

Old Thinking vs. New Markets

According to C.K. Prahalad and Stuart L. Hart, successfully marketing to the world's "aspiring poor" will require that companies re-examine and overcome several "widely shared orthodoxies":

- **Assumption #1:** The poor are not our target consumers because multinational companies (MNCs), with their current cost structures, cannot compete for that market. *MNC cost structures are a given.*

- **Assumption #2.** The poor cannot afford and have no use for the products and services that are sold in the developed markets. *Product is our focus, not functionality. We worry about detergents, not cleanliness.*

- **Assumption #3.** Only the developed markets appreciate and will pay for new technology. The poor can use the previous generation of technology. *We focus on product and process innovations and not business innovations. Innovations come from the top-tier markets.*

- **Assumption #4.** The bottom of the pyramid is not important to the long-term viability of our business. We can focus on the top tiers and leave the bottom tiers to governments and nonprofits. *We do not see the bottom of the pyramid forcing us to innovate around sustainable development.*

- **Assumption #5.** Intellectual excitement is in the developed markets. It would be hard to recruit, train, and motivate managers who would want to spend time in creating a commercial infrastructure at the bottom of the pyramid. *Managers do not get excited with business challenges that have a humanitarian element to them. ❖*

The New Environmentalist

THE MOST FAMOUS THOUGHT experiment in economics may be Adam Smith's pin factory, which he used to explain the concept of division of labor. According to Smith, a skilled craftsman could make pins one at a time, and the pins would be very good indeed. Or, a pin factory, where workers performed different tasks, could produce many pins more inexpensively, leading to much greater economic efficiency and wealth.

Most people, even if they have never heard Smith's example, are well aware of the benefits of division of labor. What most are not aware of, however, is that the process continues, at a higher level and more vigorously, throughout the economy. And it has significant implications for those who consider themselves environmentalists.

A recent article in *The Economist* ("Have Factory, Will Travel," Feb. 12, p. 61) discussed a trend known as "factories for hire," wherein companies outsource manufacturing to specialized firms. Although patterns differ, many electronics firms considered by the public to be "manufacturers," such as IBM, Ericsson, and Cisco, increasingly do less manufacturing and concentrate on branding and marketing. Other sectors, such as automotive, toys, and apparel, are following suit.

In other words, where "division of labor" used to operate at the individual level, it now operates at the firm level: one firm increasingly focuses on systems integration and design, one on manufacturing, one on marketing, etc. Like many modern phenomena, this firm-scale division of labor is enabled by telecommunications, especially company intranets and the Internet.

WHY IS THIS DONE? FUNDAMENTAL economic forces. For example,

complex modern manufacturing places increasing value on specialized knowledge; a firm that makes nothing but high-tech electronics will be able to out-compete one that tries to be all things.

But there are more subtle drivers as well. For example, the critical role of time to market in many sectors is well recognized by business folk — Japanese firms are respected globally for their ability to compete on this basis — but not by those with no industrial experience. (Thus, for example, during the U.S. Clean Air Act amendment debates over procedures for permit modification, electronics firms

To an environmentalist, all business problems have environmental drivers.

argued that permit approval processes, which could last half a year, were impossible where entire product lines lived and died in shorter periods. Environmentalists regarded all such arguments as nothing more than attempts to circumvent permit restrictions.)

Finally, there is the flexibility element: contract manufacturing can be rapidly shifted as technologies and markets change.

IT IS INTERESTING THAT CONTRACT manufacturing is not driven by the reason some environmentalists give — that is, to enable the shifting of manufacturing to areas where laws are substantively weaker. Traditional economic drivers such as market presence and the increased efficiencies of operating in an increasingly vertically diversified mode are far more important than any marginal benefits suggested by differing regulatory regimes.

Rather, the traditional response

reflects the fact that, to an environmental professional, all problems look environmental — and thus, evolutions in business practices tend to be attributed, often without analysis, to (often questionable) environmental motives.

BUT THIS NAÏVE RESPONSE HAS COSTS associated with it. Most significantly, it blinds environmentalism to the really important questions raised by such shifts in industrial structure. What are the real-world, triple-bottom-line implications of contract manufacturing? What are the new leverage points to introduce design-for-environment and other design and engineering principles to enhance environmental preferability of the system? What are the implications for international governance systems? Who makes the design choices within which the meaningful environmental issues are embedded? Relying on superficial ideological responses in such a complex system can marginalize the environmental voice just when it is important that it be heard clearly.

And this leads to the observation that the great environmental achievements of the 21st century will not likely be made by ideologically committed activists, but by engineers and MBAs, trained to be sensitive to the environmental and social dimensions of their activities, and to the unprecedented complexity of 21st-century business.

— Brad Allenby

Allenby is Environment, Health & Safety Vice President for AT&T and an adjunct professor at Columbia University's School of International and Public Affairs. The opinions expressed are the author's alone, and not necessarily those of any institution with which he is affiliated.