GREEN INTELLIGENCE: TOWARD TRUE ECOLOGICAL TRANSPARENCY[1]

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Wal-Mart's push to develop a sustainability index for the products it carries could prove to be a pivotal moment in the effort to make consumers aware of the environmental impacts of what they buy. Two months ago, Wal-Mart made an announcement that could set off an ecological earthquake: The giant retailer disclosed it was cooperating with an academic consortium to develop a sustainability index for rating its hundreds of thousands of products.

Just weeks after Wal-Mart's announcement, the *Harvard Business Review* featured a cover story proclaiming that sustainability has become the key to successful corporate strategy. The article, co-authored by the University of Michigan-based strategy maven C.K. Prahalad, proclaimed that the next business model must be green and touted ecological innovation as the coming driver of economic growth.[2]

Wal-Mart has handed the environmental movement a new tool for ameliorating the human footprint: using an emerging generation of information systems to create market pressures to upgrade the ecological performance of commerce and industry. This strategy entails making life-cycle-assessment data for products transparent — that is, labeling them with a sound, independent rating so shoppers can easily take the ecological impacts into account as they decide what to buy. Indeed, the Wal-Mart announcement has thrust what once seemed merely an intriguing idea into a market reality companies will have to deal with — not just in tomorrow's strategic plans, but in today's logistics and operations. Wal-Mart's 100,000-plus suppliers (and the likes of Procter & Gamble counts as just one) will be required to reveal their products' ecological impacts or have them dropped from the retailer's stores worldwide.

"A year ago I was just beginning to talk with folks at Wal-Mart about the concept of life-cycle assessment," says Gregory Norris, an industrial ecologist who teaches at the University of Arkansas and the Harvard School of Public Health. "Now they are using the tools to do pilot life-cycle assessments on their own products. This has gone from talk to action." Norris heads the development of Earthster, an open-source information system designed to evaluate a product's life-cycle assessment relative to industry norms and help suppliers and bulk buyers to spot ecological upgrades that will improve the product's rating. Norris, a member of the Sustainability Consortium that Wal-Mart has partnered with, envisions Earthster as capable of creating industry averages for a given product, enabling manufacturers spot where they need to improve and helping companies find suppliers who can offer upgrades on a given ecological impact.

A pilot project now underway with Earthster involves seven products from Wal-Mart. The intention is to make the system scalable, so that one day all items in Wal-Mart's aisles will have a sustainability rating, starting with the retailer's 3,500 house brands. "We expect usage to scale exponentially by next year," says Norris. "Because Wal-Mart has so much influence, other big companies are looking into this, too."Roughly 20 percent of factories in China are said to be

[1] environment 360, Yale University, September 15, 2009

[2] Nidumolu, R., C.K. Prahalad and M.R.Rangaswami. 2009. Why sustainability is now the key driver of innovation. Harvard Business Review.

somewhere in the supply chain for Wal-Mart's suppliers. "If this comes to the Wal-Mart supply chain," Norris comments, "it's on its way to the global economy."

The index will produce a sustainability rating label that retailers will post as a single number or symbol next to an item's price tag. The Sustainability Consortium, which is developing the index and is centered at Arizona State University and the University of Arkansas, envisions the system as a new industrial standard, one that many retailers beyond Wal-Mart will adopt, and that companies and other organizational purchasers will use in business-to-business buys.

A prototype for just such a sustainability index is already in operation: GoodGuide.com, launched earlier this year, aggregates more than 200 databases — from the global warming evaluations of companies compiled by ClimateCounts, to government listings of toxic chemicals — into a single rating on a 10-point scale. The advantage of an all-in-one rating is this: say you're buying a wood product that has won Forest Stewardship Council approval — but you also want to know how it rates on chemicals of concern, how workers are treated, and its carbon footprint.

GoodGuide, developed by a team led by industrial ecologist Dara O'Rourke of the University of California at Berkeley, tells you all that, and much more — either in a single summative score (on a 1 to 10 scale), or broken down into sub-ratings in environmental, health, and social categories — and, if you're determined to dig down to details, with transparency about how the ratings were arrived at. So far GoodGuide rates 70,000 or so individual products, with more in the pipeline. According to O'Rourke, GoodGuide.com has had more than two million web users since its launch in October of 2008. A survey reported at a September meeting of the Grocery Manufacturers Association found even during the economic downturn two-thirds of shoppers say they now find it more important to purchase products with health and environmental benefits.

O'Rourke has found himself invited to speak at a succession of business and industry meetings to explain the new ecological transparency systems. "My message to them is: 'This is coming. Wal-Mart's involvement is the biggest proof this is going mainstream,'" O'Rourke told me. "In the last two months we've been getting more and more calls from big retailers wanting us to let them put our ratings on their products — especially house brands," which typically have double the profit margin of other products.

Such eco-rating systems exemplify a coming wave of radical transparency that could culminate in products' competing not just on price and quality, but on their total ecological impact as assessed in life-cycle-assessment ratings. This could finally bring ecological impacts into the value equation for products. Perhaps the most surprising development is the turnabout in businesses' embrace of transparency about ecological impacts (or at least some businesses — there also remains widespread skepticism, if not outright fear, of transparency). "Wal-Mart was considered the most secretive retailer," O'Rourke says, "but now they're saying the only way forward is the path of openness."

Historically there has always been a vast information asymmetry, with consumers knowing next to nothing about the true ecological impacts of what they buy. Ecological transparency hands that once-hidden information to shoppers. The information systems fostering marketplace ecological transparency are disruptive technologies, promising to be a game-changer both for business and for environmental, public health, and social activists of many stripes.

One scenario: As the cost of compiling and indexing this previously hidden information drops to

zero, the ratings will sway the shopping decisions of substantial numbers of consumers — as well as business-to-business and institutional buyers — shifting market share toward ecologically superior products, thus making winners of brands that compete best on the ecological merits, along with price and quality. This, in turn, could trigger a virtuous cycle where this crucial information at the point-of-purchase impels companies to upgrade the impacts of their business practices in an ongoing process of improvement. And this game change for business could resolve the longstanding debate within companies about sustainability, where some voices argue for social responsibility and others counter that there is just no business case to justify changing. While there are exceptional, progressive companies, the best most businesses have done is to pursue sustainability only to the extent it immediately helps their bottom line — for example, by finding cost savings from energy efficiencies.

The big switch will come as executives see that the *top* line now benefits with more sales for ecologically superior products. Then the smart business strategy will include a perpetual upgrade, where companies actively search for points in the life-cycle assessment of a product and where an improvement in a supplier or source — or in a chemical or other ingredient, industrial platform, or process — could give their product a better ecological impact score.

All this promises to accelerate the demand for innovations across the entire range of ecological impacts from industry, transportation, and retailing. Andy Ruben, formerly the head of Wal-Mart's sustainability initiative and now head of its house brands division, has called such entrepreneurial inventiveness the "biggest business opportunity of the next 50 years," one that could potentially go way beyond the current boost to green energy from federal stimulus money.

For environmental groups, this sea change can make allies of businesses that were once seen as adversaries, creating a common agenda. Already the Nature Conservancy has consulted with a global oil company on how to manage a huge holding in Wyoming in ways that leave crucial ecosystems in optimal shape. Coca-Cola turned to expertise from the World Wildlife Fund to better understand its water footprint, and how to be lighter in the impact of its usage. Such working alliances, where academic and nonprofit expertise joins with business ventures to lessen ecological impacts, will make increasing sense in a radically transparent future.

Industrial ecologists — who focus on sustainable approaches that integrate environmental, technical and social factors — may find themselves suddenly in the spotlight, as ecological transparency highlights for business the importance of the discipline itself and primes demand for its services. As industrial ecology transitions from offering high-fee, proprietary life-cycle assessments to doing more open-source ones in the service of a virtuous cycle, the field may well take on new cachet and draw a flood of talented people who see it as a way to find work in keeping with their values.

Only time will tell if vehicles like the Sustainability Index or GoodGuide will one day be used by enough shoppers and big buyers to matter in these ways. Wal-Mart executives point to survey data suggesting that younger people — those born from the 1980s on — are far more motivated to shop for a better planet than any past generation. An increasing number of institutional buyers already have mandates for more ecologically sound purchases, so these rating systems could readily be used as lenses on suppliers. But can information systems really create a new level of buyer awareness that will reach critical marketplace mass? I was at the *New York Times* as a science journalist when the Internet was launched, and if anyone had said then that one day this new kid on the block would threaten the paper's very existence, they would have met only scorn. We'll see.