EH&S Advisor

Metrics Will Matter

by Richard MacLean, Competitive Environment Inc.

EH&S managers pride themselves on using the latest software systems to collect and track metrics. The displays are impressive and the reports give one a good feeling of being in control. In reality, some EH&S managers may be winning the battle to efficiently sort data, but losing the strategic war to gain competitive advantage for their companies. Metrics theory and practice has undergone a quiet revolution during the past five years and the long-term business implications are profound.

This is the first of several columns that will be devoted to EH&S metrics. Future topics will examine the what and the how of metrics; this one takes a look at the why, namely, emerging trends that will drive more robust metrics systems. If this material is new to you, I hope you are a fast learner—the long-term implications for your company may be significant.

Early EH&S metrics focused on regulatory compliance, injury rates, and regulated emissions tracking. In the mid-1980s, this list was expanded to include waste reduction and toxics data. The results attracted both the public's and senior management's attention. Not surprisingly, this information often formed the factual core of early environmental reports. This "traditional" set of metrics remains the nucleus of most internal and external environmental reports.

Conventional wisdom recognizes that an EH&S program focused exclusively on minimum compliance offers no competitive business advantage.[1] A company's existing operations are allowed to stay in operation and that's about it. What is not widely recognized today is that a traditional set of metrics offers few insights and strategic guidance for business management to gain competitive advantage. Metrics theory and practice has undergone a significant evolution and leading companies are now beginning to position themselves to take full advantage of these emerging tools.

FUNDAMENTAL FLAWS

Financial metrics matter because they are comparable, consistent, credible, and relevant to various stakeholders' needs. The majority of EH&S metrics provide essentially none of these elements. Taken narrowly and in isolation, a specific measure for a company may possess most of these traits, but as soon as one tries to make company-to-company or company-to-industry sector comparisons, the task becomes problematic. Comparisons matter. Using the financial metric analog, investment analysts may be interested that Alpha Company made a profit, but they will put their money in Beta Company *if it has a higher return on equity*.

Typically, companies report total emission numbers, but what is the significance of these numbers relative to those of competitors? What processes are better than others? What products? What company is truly green? Trend data show progress over time within a firm or facility, but how is this progress relative to others? Is this progress adequate to attain sustainable production? What are the leading indicators? How do we manage performance, and not just track end results? In summary, EH&S metrics were just numbers in the past; in the future, they will be used to support decisions by *all* stakeholders. This is a fundamental shift. Many companies still have not begun to sort out the full implications.

Today's deficiencies in EH&S metrics have not gone unnoticed. Organizations such as the Investor Responsibility Research Center (IRRC) have struggled to make meaningful comparisons among companies to facilitate social screening of investment portfolios.[2] The job is difficult, since information is lumped together in various ways, and no generally accepted standards exist to sort, normalize, or report the data.

Over the past five years, organizations such as the National Roundtable on the Economy and the Environment (NRTEE),[3] the Center for Waste Reduction Technologies, (CWRT),[4] the World Business Council for Sustainable Development (WBCSD),[5] the Global Reporting Initiative (GRI),[6] and the National Academy of Engineering (NAE)[7] have started to address the fundamental issues of comparable, consistent, credible, and relevant EH&S metrics.

The current work by BRIDGES to Sustainability, supported by the U.S. Department of Energy (DOE) and the American Institute of Chemical Engineers (AIChE), represents the cutting edge of integrating metrics theory into practical business tools. BRIDGES is a nonprofit organization that fosters sustainable development through partnerships between universities and industry, resulting in practical business tools and real-world experience for students and faculty.[8]

In May 2000, in Austin, TX, BRIDGES brought together leading companies, government representatives, and academics to review their interim sustainability metrics results and share an impressive sampling of future EH&S metrics. These include measures of material intensity, energy intensity, water usage, toxics, and other pollutants. BRIDGES will produce guidelines concerning metric decision rules with examples on

specific processes. Although this program focuses on the chemical industry, it serves as a model for other industries.

The most significant aspect of this work is the ability to "stack" metrics on a consistent basis across individual processes, and for that matter, across the entire supply chain. Stacking metrics forms the basis of not only cross-factory and cross-company comparisons for specific products, but the ability to perform life cycle assessments and to optimize products for the environment (design for the environment). Standardization of data collection and meaningful comparisons among the various options is key for success.

THE LANGUAGE OF SUSTAINABLE DEVELOPMENT

At first glance, these efforts to improve metrics may seem like another incremental improvement on existing data collection methods. They are not. Comparable, consistent, credible, and relevant metrics represent the Rosetta stone to the language of sustainable development. There are obvious benefits, such as those listed in Table 1. What is not as obvious is the profound impact that EH&S metrics can have on entire industries. There are many examples of this influence, but often the discussions get framed in a broader business context. The significance of the power of EH&S metrics—the triggering event—gets lost in the rush to address the new challenge.

For example, on May 11, 2000, William Ford Jr. announced that sports utility vehicles (SUVs) have serious safety and environmental problems. The existing national system to report comparable, consistent, credible, and relevant EH&S metrics was the driving force behind this announcement. Indeed, the miles-per-gallon and accident metrics have driven many of today's automotive manufacturing, policy, legal, and regulatory decisions. People may willingly accept a higher fuel consumption rate, but if the safety metrics are abnormal and they are injured, they get a lawyer.

Uniform food nutrition labeling is a list of product health metrics on the side of containers. Energy labeling on major appliances is an environmental metric. Voluntary eco-labeling in conformance with a standard is another form of environmental metric labeling. Even the thought of having foods identified with genetically engineered (GE) ingredients has caused companies such as McDonald's Corp. to declare that its potatoes will be GE-free by fall 2000.

The "A, B, C" ratings for Los Angeles restaurants is a health and safety inspection metric. When I visit my daughter in Los Angeles, I avoid the B and C restaurants and *never* eat at Beverly Hills Cuisine, one of the lowest-rated establishments in the city.[9] A name like "Beverly Hills" cannot camouflage health issues if a firm is subjected to standardized inspection and disclosure. On a much grander scale, what manufacturers do you want to move into your neighborhood? Visualize the familiar National Fire Protection Association (NFPA) hazardous materials diamond being supplemented by key EH&S metrics!

Table 1. Uses of metrics.

Internal

- Increase management recognition of environmental/financial interface
- Identify and manage environmental risks associated with unsustainable business practices
- Support sustainable business practices
- Increase competitiveness and future profitability
- Reduce the complexity of multifaceted EH&S issues in making early product development decisions
- Monitor improvement in environmental performance over time
- Benchmark against competitors and those in other industries
- Meet changing expectations of boards of directors regarding eco-efficiency
- Set targets and priorities to improve employee satisfaction and motivation through commonsense approach

External

- Meet environmental management and/or product labeling standards (ISO 14000, Eco-Management and Audit Scheme [EMAS], industry codes of practice like Responsible Care, Energy Star, Green Seal, Forest Stewardship Council)
- Meet customer demands for more information
- Respond to supplier accreditation initiatives
- Meet regulator requirements for more information
- Respond to economic/trade incentive schemes promoting one or more aspects of sustainability
- Meet the changing expectations of financial stakeholders
- Respond to general external stakeholder concerns and expectations

Between 1986 and 1997, the Toxic Release Inventory (TRI) reduced toxic emissions by more than 43%.[10] These numbers are now tracked by the Environmental Defense Fund's Scorecard.[11] The TRI offers a glimpse of the potential long-term influence that metrics may someday have on industry.

And here's the point: When the metric (and labeling) is clear, understandable, and reliable, it can affect consumer/voter choice, and ultimately, this influences legislative and regulatory action. The companies present at the May BRIDGES meeting understand these dynamics, and they are examining how their products, processes, and supply chains will stack up against a set of sustainability metrics *relative to their competitors*.

THE POLITICS OF AMBIGUITY

The majority of disclosure remains voluntary, and business managers have been lulled into thinking that (a) voluntary reporting will continue indefinitely, and (b) their current internal and external reporting efforts (i.e., rolling up the traditional numbers) will keep them abreast of developments. I would not count on either.

Managing the flow of information is a major factor in controlling political, social, and economic outcomes. Ambiguity allows the status quo to continue or selective agendas to be pushed forward over more optimal solutions. Change is often prompted by the mere disclosure of new, credible information, as illustrated by the impact of the TRI. Environmental activists, nongovernmental organizations, and politicians understand these dynamics, and green marketing is based on it.

EH&S ADVISOR CHECKLIST

The Significance of Emerging EH&S Metrics

1. EH&S metrics have traditionally focused on outcomes (e.g., regulatory compliance, injury rates, regulated emissions tracking, waste reduction and toxics), rather than leading indicators; and totals, rather than normalized data to facilitate meaningful cross-industry comparisons.
2. An "outcomes and totals" approach offers management limited strategic guidance and insight into how to gain competitive advantage.
3. Metrics theory and practice has undergone a significant evolution in the past five years:
   - Organizations are now starting to address the issues of comparable, consistent, credible, and relevant EH&S metrics.
   - Stacking metrics on a consistent basis across individual processes and across the entire supply chain provides a powerful tool for life cycle assessment.
   - Leading companies are now beginning to position themselves to take full advantage of these emerging tools.
4. EH&S metrics can have a profound impact on entire industries:
   - There are many examples of this influence, but often these discussions are framed in a broader business context and the realization that an EH&S metric triggered these changes gets overlooked by business management.
   - Metrics can affect consumer/voter choice, and ultimately, this influences legislative and regulatory action.
   - The power to shape the debate is not overlooked by NGOs and environmental activists. The politics of disclosure can shift suddenly if your EH&S metric becomes the cause célèbre.
5. Leading companies recognize these dynamics and are not waiting for outside influences to dominate their internal management decisions.
   - The first step is to understand not just traditional metrics, but the leading and lagging metrics of sustainable development, and where your company stands relative to other companies *and* stakeholders' expectations.
   - Good *comparative* EH&S competitive intelligence is difficult to obtain and few go through the effort to assemble it. It can take years to establish and build a reliable database.

The politics of disclosure can shift suddenly and unpredictably if your "EH&S metric" becomes the cause célèbre. For example, British Prime Minister Tony Blair did a complete about-face on genetically engineered foods in less than one year. The politically correct EH&S metric went from 1.0 pounds of GE ingredients per pound of food to 0.0.

Elaborate command and control regulations can take years to legislate and promulgate. Establishing a new reporting metric can happen quickly, and in the case of consumer products, self-disclosure can happen in days if consumer pressure skyrockets. In a global marketplace, lobbyists in Washington, DC, have little control over a movement originating elsewhere. My read of the politics of metrics is that Europe or Canada will shape these dynamics, not the United States, as Monsanto Co. found out the hard way with biotech food crops. Substantive progress in the future will be based on transparency and verification. The old paradigm of command and control that the United States steadfastly clings to is widely recognized to be stalled and mired in incrementalism.

The environment always benefits from open disclosure. However, stakeholders may believe that this is almost always a zero-sum game (i.e., the environment wins, but profits suffer). The environment should never be a zero-sum game, but this is often the politics of EH&S. Years ago I heard Jack Welch, CEO of General Electric Co., chastise his managers to see the world as it is, not as they wished it to be. This philosophy should be applied to companies that view the world through a narrow set of EH&S metrics and are clueless as to what all this may mean in an increasingly competitive environment.

Good *comparative* EH&S competitive intelligence is very difficult to obtain and few go through the effort to assemble it. It can take years to establish and build a reliable database. Business decisions based on this information, which involve risk and liability assessments, are very tricky, requiring a multidisciplinary approach.[12] Leading companies recognize these dynamics and are not waiting for outside influences to dominate their internal management decisions. The first step is to understand not just traditional metrics, but the leading and lagging metrics of sustainable development, and where your company stands relative to other companies *and* stakeholders' expectations.

REFERENCES

1. For a discussion on "there is nothing strategic about environmental compliance," see Johnson, S. Identification and Selection of Environmental Performance Indicators: Application of the Balanced Scorecard Approach; *Corporate Environmental Strategy*, Vol. 5, No. 4, Summer **1998**, p 36.
2. See *http://www.irrc.org/eisweb/eismain.htm*.
3. NRTEE. Measuring Eco-Efficiency in Business: Developing a Core Set of Eco-Efficiency Indicators, 1997-1998; see *http://www.nrtee-trnee.ca/eng/programs/eco-efficiency/eco-efficiency_e.htm*.
4. CWRT, see *http://www.aiche.org/cwrt*.
5. Lehni, M. Project on Eco-Efficiency Metrics & Reporting, State-of-Play Report; World Business Council for Sustainable Development, Conches-Geneva, Switzerland, March 1998; see *http://www.wbcsd.ch/ecoeff1.htm #eemetrics*.
6. GRI, see *http://www.globalreporting.org/*.
7. National Academy of Engineering/National Research Council. *Industrial Environmental Performance Metrics—Challenges and Opportunities*; National Academy Press: Washington, DC, 1999.
8. Beloff, B., BRIDGES to Sustainability, Houston, TX. Personal communication, 2000.
9. See *http://knabe.com/Content/Kn_demo_7.htm*.
10. Baker, P. *Washington Post*: April 23, 1997.
11. See *http://www.scorecard.org*.
12. For an overview of this subject, see Rappaport, A. and MacLean, R. Environmental Accounting for Competitive Advantage, Chapter 6, *Environmental Management and Business Strategy: Leadership Skills for the 21st Century*; John Wiley & Sons: November 1998.

About the Author

Richard MacLean is president of Competitive Environment Inc., Scottsdale, AZ, and director of the Center for Environmental Innovation (CEI). He can be contacted by phone: (480) 922-1620; e-mail: *maclean@competitive-e.com*; and Web site: *www.Competitive-E.com*.