The Sum of All Figures

Metrics that matter to top executives

By Richard MacLean

Environmental managers have been very successful at controlling the performance metrics that executives have tracked for decades: emissions, wastes, accidents and compliance. Unless things have gone completely haywire, these numbers just do not attract serious consideration anymore. They also deflect attention away from the emerging issues and competitive dynamics that should now be on management's radarscope. How do you identify the metrics that will matter?

The metrics used by executives to track business performance have undergone a major transformation over the past 30 years. The "old economy" tracked tangible assets, such as inventory, plant and equipment and bottom line financial measurements, such as profit and loss. In today's economy, intangible assets, such as knowledge and competitive strategies are the keys to success. This strategic shift in the metrics that matter to business was captured by Robert Kaplan and David Norton in their seminal work in the late 1980s on the Balanced Scorecard.[1]

Environmental, health and safety (EHS) metric theory has undergone a similar transformation over this period. This evolution is best described in the work by the TNO Institute for Strategy, Technology and Policy in the Netherlands (see **Table 1**). Driven by evolving EHS strategies and public attitudes, the shift is clearly moving away from the traditional, regulatory-based metrics toward broader measurements of corporate responsibility.

The business concepts of performance measurement have also made their way into the EHS arena. Researchers, such as Marc Epstein and Priscilla Wisner, have translated the business theory of the balanced scorecard into an EHS context.[2] Historically, EHS measurements have been lagging indicators (outcomes); the attention has now shifted to identifying leading indicators (predictors) of performance.

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In addition to the changing theory of EHS metrics, there has been a dramatic increase in the spectrum of indicators that non-governmental organizations (NGOs), governments and research institutes are evaluating. Several shelves on one of my bookcases, a file cabinet and a special folder in my computer are devoted to recent literature on emerging metrics.

Some of the best material originates outside the United States. Good starting places are the Canadian-based International Institute for Sustainable Development (IISD)[3], the Swiss-based World Business Council for Sustainable Development (WBCSD) eco-efficiency project[4] and the French-based Organization for Economic Cooperation and Development (OECD).[5]

While the theory today is robust and evolving rapidly, actual practice is mixed and mired in the past and dominated by a herd mentality. There are exceptions. NiSource Inc. has embraced a balanced scorecard and more significantly, translated this framework into a system that their business executives can use to more readily understand the EHS business relevance: Environmental Impact, Asset Value, Management Systems and Product Sustainability.[6]

Royal Dutch Shell spent in excess of $1 million to develop its environmental and social responsibility metrics. Instead of picking numbers from established sources, such as the Global Reporting Initiative (GRI) template, Shell held 33 meetings with stakeholders and shareholders.[7] The derived metrics became a much more accurate reflection of what its customers and other stakeholders wanted, and thus, a true reflection of its internal business strategy.

Developing a Metrics System

The all-too-common approach in use today is to: (1) rely on the familiar, traditional outcome metrics; (2) benchmark with other companies, mostly through their public reports; and (3) consider what else might be tracked, based on readily available sources, such as GRI. No wonder few business exec-

utives get very excited over EHS metrics.

I call this the "lemmings at the cliff" approach to metrics strategy. Your corporation may not gain competitive advantage, but at least it will have lots of company on the way down. Remember, few companies have survived over the long haul, and this is definitely about long term sustainability. So, how do you break free? There are five key principles that are especially relevant for EHS departments selecting the metrics for the entire corporation or major business groups. These principles also apply at the facility level when aligned for greater emphasis on operational and community relevance rather than product positioning.

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1. Identify the metrics of tomorrow

Clayton Christensen and his co-authors describe in a recent Harvard Business Review article, "Skate to Where the Money Will Be," the emerging strategy of analyzing where the future profits will be in evolving markets.[8] As Wayne Gretzky used to say, winning was all about getting to where the puck would be next. This fascinating article richly illustrates how companies, particularly in the personal computer industry, succeeded or failed in anticipating where the profits would be.

In a similar vein, a good metrics system positions the company for the EHS issues of tomorrow. The focus should not be on what companies are currently reporting, but on the emerging EHS dynamics. For example, in addition to the usual sources, I examine three additional resources for my clients: the emerging literature by scientists, public policy organization studies and emerging guidelines and other NGO sources, such as environmental activist organizations. The outcome can be distilled down and placed in a single matrix where clusters of key metrics stand out.

2. Map the metrics to business strategy

The metrics selection should not be dominated by public disclosure and image enhancement considerations. This effort should be focused primarily on business priorities. To this end, EHS managers should not assume that management wants to improve the usual EHS performance metrics. Indeed, a well-developed metrics system will help shift resources to the areas that matter in an overall business context. Unfortunately, business executives have the singular view that good EHS performance is all about EHS cost reduction, image enhancement and compliance. Now is the time to change this.

This realignment is accomplished by clearly identifying the key business priorities, their performance measurements and how the business intends to meet these objectives. This business perspective is mapped against the direct and, especially, the indirect areas that EHS can influence. For example, Dennis Hussey of the University of Wisconsin-Madison states that "EHS managers need to use existing business data gathering tools (e.g., Kano Analysis) to determine customer expectations for environmental performance. This not only helps with the development of leading EHS metrics, it creates an automatic EHS link to business strategy."[9]

In some respects, it is similar to a well-developed aspects and impacts analysis under ISO 14001 — each impact is ranked in overall environmental significance and the environmental metrics are selected to track performance improvements for the most significant aspects. Conceptually it is the same, with the EHS-related issues with the greatest business significance identified and tracked with appropriate metrics. An excellent example of how this is accomplished is the Dow Chemical Company "12 Point Sustainable Development Operating Plan."[10]

3. Use a life cycle / supply chain approach

Traditional metrics were concerned with what occurred within the fence line. Emerging metrics are concerned with not just the life cycle of the products and services, but also the entire supply chain. For the most critical components in the supply chain, the key EHS metrics may be not directly related to your operations, but to those of suppliers or distributors. Similar to the approach in developing the metrics of tomorrow, you are employing a forward looking approach that concentrates on where the value is created and which key EHS issues might be associated with these stages. Obviously, resource consumption issues are high-priority in this broad examination.

Ideally, this is what the strategic plan-

Table 1. Generations of EHS Metrics

Aspect	First	Second	Third	Fourth
Drivers	Legislation and external pressure	Efficiency	Strategic performance	Societal license to operate
Public attitude	'Trust Me'	'Tell Me'	'Show Me'	'Involve Me'
Measures	Clean-up operations	Prevention	Chain management	Sustainable measures
Functions	Registration, Monitoring	Process changes, Communication	Product design, Balanced scorecard	Integrated decision-making, Portfolio assessment
Expression	Emissions, Costs	Material and energy use, Efficiency	Eco-efficiency, Product characteristics	Resources, Societal costs, Values
Scope	Substances, Emissions	Processes	Products, Production chain processes	Sustainability issues
Reference value	Regulatory targets	Other processes, previous years	Other products, Other Suppliers	Societal values, Sustainable issues

Source: Adapted from TNO Institute of Strategy, Technology and Policy[12]

ning process for your business should be providing. The question remains, however, how well can this be done if the strategic planning process fails to involve those most knowledgeable of emerging EHS dynamics?

4. Use a balanced mix

An appropriate mix of leading and lagging indicators should be selected. The balanced score card approach is useful in grouping and representing the spectrum of metrics. It is particularly helpful to use strategy maps to show how each level supports the next, eventually resulting in financial performance improvements.[11]

5. Educate management

In all probability, senior business executives will not be familiar with emerging EHS metrics, other than the ones that appear in the trade and popular press (e.g., those related to global warming, such as energy efficiency). The issue in communicating a new set of EHS metrics should be centered on the question, "What is the relevance of these metrics to our business?" The first four principles, if done correctly, will help to answer this question, because what these steps do, in essence, is to structure a system that overlaps the current business performance measurement system.

Nonetheless, a number of the metrics may only serve as indirect proxies for the underlying business concern. For example, the results of an annual survey of community and regulatory agency attitudes towards a facility may serve as a proxy for successful facility expansions. Do not assume that business management will make the connection between the proxies and the business value. This will take time, access to management and a plan to roll out the metric strategy.

Bottom Line

EHS managers have recently embraced the concepts of the balanced scorecard and leading performance indicators, yet they continue to struggle to find the right combination of metrics that measure the value of EHS to business. The search for the definitive sustainable development and "triple bottom line" performance indicators is a popular topic in the EHS community, but to most business managers all this talk may still seem irrelevant to the real issues of running a company.

EHS managers should be less concerned about what GRI and other companies are publicly reporting and much more focused on the company's competitive strategy, the life cycle of the company's products, emerging issues along the supply chain; and the scientists who are uncovering the issues that will dominate tomorrow's agendas.

Ultimately, this will all be about the efficient and responsible use of natural and human capital along the supply chain. When creating value, where does the company stand relative to its competitors as measured by key performance metrics? A metric system developed with the five principles outlined in this article will help create a business-centric system with a much greater chance of demonstrating EHS value to executive management than the metrics they have seen for the past decade. EP

References

[1] Kaplan and Norton described the balanced scorecard in several books and in a series of articles in the *Harvard Business Review,* February 1992, October 1993, and February 1996, September-October 2000.

[2] Marc Epstein and Priscilla S. Wisner, "Using a Balanced Scorecard to Implement Sustainability," *Environmental Quality Management,* Volume 11, Issue 2, 2001. Pages: 1-10

[3] *http://iisd.ca/measure/compindex.asp*

[4] *www.wbcsd.org/newscenter/media.htm#pb*

[5] *www.oecd.org*

[6] Arthur E. Smith, Jr., "Corporate EH&S Performance Measures," Energy & Emerging Issues Workshop, Phoenix, AZ, AHC Group, January 2002.

[7] The Shell metrics effort was widely reported in a number of newsletters and articles. See for example, *http://www.juergendaum. com/news/05_12_2001.htm*

[8] C. Christensen, M. Raynor, and M. Verlinden, Skate to where the Money Will Be, *Harvard Business Review,* November 2001, pages 72-81.

[9] Personal communication with Dennis Hussey June 10, 2002. See also Mark Finster, Patrick Eagan, and Dennis Hussey, "Linking Industrial Ecology with Business Strategy: Creating Value for Green Product Design," *Journal of Industrial Ecology,* 5(3), (2002), Pages 107-125.

[10] Personal communication with Samuel L. Smolik, Global Vice President EHS for Dow Chemical Company. A summary is available in his article, "Dialogue: One Critical Route to Sustainable Development," *Corporate Strategy Today,* Issue V/ VI, June 2002, Pages 21-24.

[11] R. Kaplan and D. Norton, "The Strategy Focused Organization - How balanced scorecard companies thrive in the new business environment," *Harvard Business School Press,* Boston, MA, Chapter three, 2001.

[12] L. Simons, A. Slob, and H. Holswilder, "The Fourth Generation - New strategies call for new indicators," TNO Institute of Strategy, Technology and Policy, Netherlands, September 2000.

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Organizational Best Practices for Socially Responsible Corporations

How have the leading corporations met the challenge of staying competitive while practicing social responsibility?

This question has been under investigation by researchers at Boston University School of Management (BU), Arizona State University College of Business (ASU), and Tufts University. The first public release of the project's initial findings will take place during a day and a half workshop on October 15-16, 2002 at Tufts University in Medford MA. "Organizations in Transition," examines the current approaches taken to size and organize company's EHS staffs.

The workshop is being managed by the Center for Environmental Innovation (CEI), a 501 (c) (3) nonprofit, in collaboration with Boston University's School of Management (BU). For a detailed agenda and registration form, visit the CEI web site *www.Enviro-Innovate.org* or call the Project Manager, Richard MacLean, at 480-922-1620.