

Commercial/Industrial Eco-Efficiency Measures

Indicator #3514

This indicator report was last updated in 2003.

Overall Assessment

Status: Not Assessed
Trend: Not Assessed

Lake-by-Lake Assessment

<i>Separate lake assessments were not included in the last update of this report.</i>

Purpose

- To assess the institutionalized response of the commercial/industrial sector to pressures imposed on the ecosystem as a result of production processes and service delivery

Ecosystem Objective

The goal of eco-efficiency is to deliver competitively priced goods and services that satisfy human needs and increase quality of life, while progressively reducing ecological impacts and resource intensity throughout the lifecycle, to a level at least in line with the earth's estimated carrying capacity (WBCSD 1996). In quantitative terms, the goal is to increase the ratio of the value of output(s) produced by a firm to the sum of the environmental pressures generated by the firm (OECD *et al.* 1998).

State of the Ecosystem

Background

This indicator report for eco-efficiency is based upon the public documents produced by the 24 largest employers in the basin which report eco-efficiency measures and implement eco-efficiency strategies. The 24 largest employers were selected as industry leaders and as a proxy for assessing commercial/industrial eco-efficiency measures. This indicator should not be considered a comprehensive evaluation of all the activities of the commercial/industrial sector, particularly small-scale organizations, though it is presumed that many other industrial/commercial organizations are implementing and reporting on similar strategies.

Efforts to track eco-efficiency in the Great Lakes basin and in North America are still in the infancy stage. This is the first assessment of its kind in the Great Lakes region. It includes 24 of the largest private employers, from a variety of sectors, operating in the basin. Participation in eco-efficiency was tabulated from publicly available environmental reporting data from 10 Canadian companies and 14 American companies based in (or with major operations in) the Great Lakes basin.

Tracking of eco-efficiency indicators is based on the notion that what is measured is what gets done. The evaluation of this indicator is conducted by recording presence/absence of reporting related to performance in seven eco-efficiency reporting categories (net sales, quantity of goods produced, material consumption, energy consumption, water consumption, greenhouse gas emissions, emissions of ozone depleting substances (World Business Council on Sustainable Development (WBCSD) 2002)). In addition, the evaluation includes an enumeration of specific initiatives that are targeted toward one or more of the elements of eco-efficiency success (material intensity, energy intensity, toxic dispersion, recyclability and product durability (WBCSD 2002)).

State of Eco-Efficiency

Of the 24 companies surveyed, 10 reported publicly (available online or through customer service inquiry) on at least some measures of eco-efficiency. Energy consumption and, to some extent, material consumption were the most commonly reported measures. Of the 10 firms that reported on some elements of eco-efficiency, three reported on all seven measures. Of the 24 companies surveyed, 19 (or 79%) reported on implementation of specific eco-efficiency related initiatives. Two companies reported activities related to all five success areas. Reported initiatives were most commonly targeted toward improved recycling and improved energy efficiency.

Overall, companies in the manufacturing sector tended to provide more public information on environmental performance than the retail or financial sectors. At the same time, nearly all firms expressed a commitment to reducing the environmental impact of their

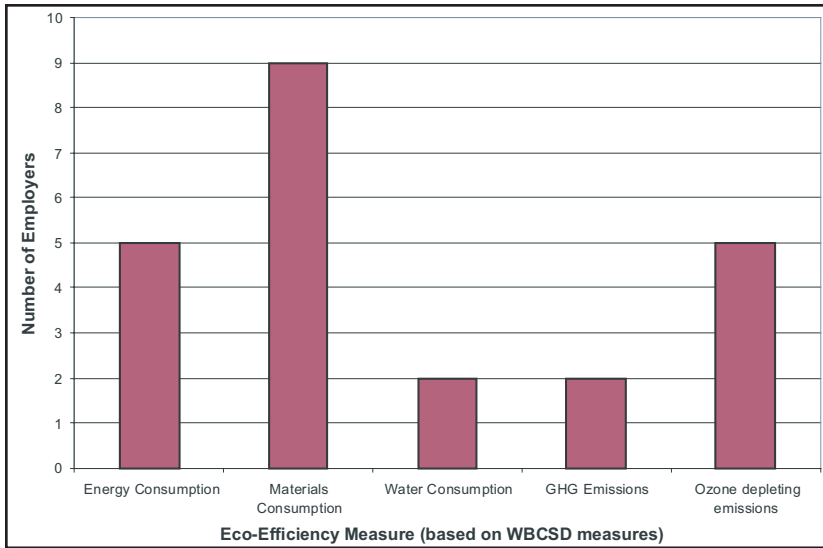


Figure 1. Number of the 24 largest employers in the Great Lakes basin that publicly report eco-efficiency measures.

GHG=green house gas

Source: WBCSD = World Business Council for Sustainable Development

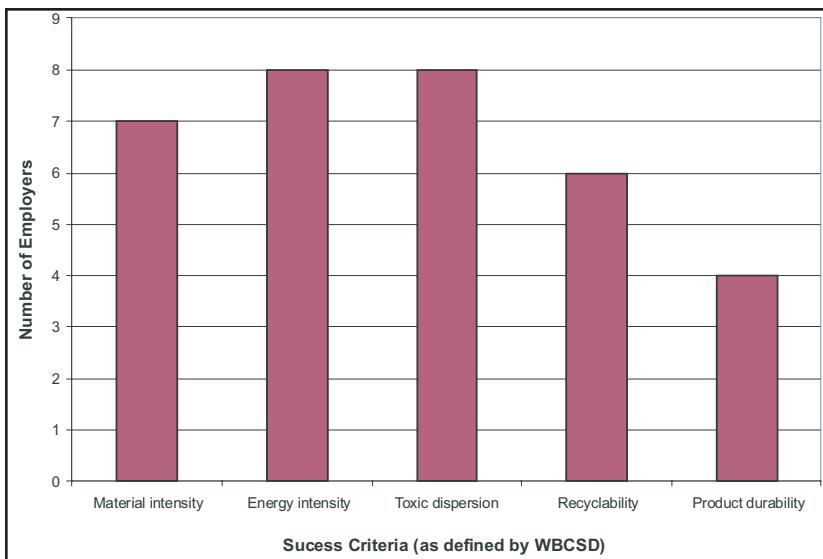


Figure 2. Number of the 24 largest employers in the Great Lakes basin that publicly report initiatives related to eco-efficiency success criteria.

Source: WBCSD = World Business Council for Sustainable Development

operations. A select number of companies, such as Steelcase Inc. and General Motors in the U.S. and Nortel Networks in Canada, have shown strong leadership in comprehensive, easily accessed, public reporting on environmental performance. Others, such as Haworth Inc. and Quad/Graphics, have shown distinct creativity and innovation in implementing measures to reduce their environmental impact. The concept of eco-efficiency was defined in 1990 but was not widely accepted until several years later. Specific data on commercial/ industrial measures are only just being implemented, therefore it is not yet possible to determine trends in eco-efficiency reporting. In general, firms appear to be working to improve the efficiency of their goods and service delivery. This is an important trend as it indicates the growing ability of firms to increase the quantity/number of goods and services produced for the same or a lesser quantity of resources per unit of output.

While one or more eco-efficiency measures are often included in environmental reporting, only a few firms recognize the complete eco-efficiency concept. Many firms recognize the need for more environmentally sensitive delivery of goods and services; however, the implementation of more environmentally efficient processes appears narrow in scope. These observations indicate that more could be done toward more sustainable goods and services delivery.

Pressures

Eco-efficiency per unit of production will undoubtedly increase over time, given the economic, environmental and public relations incentives for doing so. However, as Great Lakes populations and economies grow, quantity of goods and services produced will likely increase. If production increases by a greater margin than eco-efficiency improvements, then the overall commercial / industrial environmental impact will continue to rise. Absolute reductions in the sum of environmental pressures are necessary to deliver goods and services within the earth's carrying capacity.

Management Implications

The potential for improving the environmental and economic efficiency of goods and services delivery is unlimited. To meet the ecosystem objective, more firms in the commercial / industrial sector need to recognize the value of eco-efficiency and need to monitor and reduce the environmental impacts of production.

Comments from the author

By repeating this evaluation at a regular interval (i.e. every 2 or 4 years), trends in industrial / commercial eco-efficiency can be determined. The sustainability of goods and service delivery in the Great Lakes basin can only be determined if social justice measures are also included in commercial/industrial sector assessments. The difficulty in assessing the impacts of social justice issues precludes them from being included in this report, however, such social welfare impacts should be included in future indicator assessment.

Acknowledgments

Author:

Laurie Payne, LURA Consulting, Oakville, ON.

Contributors:

Christina Forst, Oak Ridge Institute for Science and Education, on appointment to U.S. Environmental Protection Agency, Great Lakes National Program Office; and

Dale Phenicie & George Kuper, Council of Great Lakes Industries.

Tom Van Camp and Nicolas Dion of Industry Canada provided several data resources.

Many of the firms surveyed in this report also contributed environmental reports and other corporate information. Chambers of commerce in many states and provinces around the Great Lakes provided employment data.

Sources

InfoUSA®, Omaha, NE. Largest Employers Database. 2001. www.acinet.org, employers.database@infoUSA.com.

Organization for Economic Cooperation and Development (OECD), Environment Policy Committee, Environment Directorate. 1998. *Eco-Efficiency: Environment Ministerial Steering Group Report*. Paris, France.

Report on Business Magazine. 2002. *The TOP 1000 2002: 50 Largest Employers*. <http://top1000.robmagazine.com>, last accessed July 1, 2002.

Stratos: Strategies to Sustainability in collaboration with Alan Willis and Associates and Sustainability. 2001. *Stepping Forward: Corporate Sustainability Reporting in Canada*.

Vrooman Environmental Inc. and Legwork Environmental Inc. for Industry Canada. 2001. *The Status of Eco-Efficiency and Indicator Development in Canadian Industry*. A Report on Industry Perceptions and Practices.

World Business Council on Sustainable Development (WBCSD). 2000. *Eco-efficiency: creating more value with less impact*.

World Business Council on Sustainable Development (WBCSD). 2000. *Measuring eco-efficiency: A guide to reporting company performance*.

World Business Council on Sustainable Development 1996. *Eco-efficient Leadership for Improved Economic and Environmental Performance*. Geneva, Switzerland.

National Round Table on Environment and Economy, Ottawa. 1999. *Measuring eco-efficiency in business: feasibility of a core set of indicators*.

Last Updated

State of the Great Lakes 2003