

Welcome to U.S. Environmental Protection Agency's (EPA) 2008 *Sector Performance Report*, the third in a series started in 2004.¹ The report provides a comprehensive picture of the environmental performance of 12 sectors of the U.S. economy, currently and over time. The sectors have a significant collective impact environmentally and economically. They are:

- Cement Manufacturing
- Chemical Manufacturing
- Colleges & Universities

- Construction
- Food & Beverage Manufacturing
- Forest Products
- Iron & Steel
- Metal Casting
- Oil & Gas
- Paint & Coatings
- Ports
- Shipbuilding & Ship Repair

PREFACE

We provide context in the Executive Summary by, for example, comparing the sectors to the economy as a whole. In the following chapters, we provide for each sector an economic and environmental overview, detailed data on primary environmental indicators, and case studies on selected issues of interest.

Launched in 2003, and succeeding the Sustainable Industries Program launched in 1990, the Sector Strategies Program promotes sector-wide environmental gains in the 12 sectors. We work with sector trade groups and many other stakeholders to reduce pollution, conserve resources, lessen unnecessary administrative burden, measure corresponding performance results, and identify additional opportunities through quantitative metrics.

New in this Report

- Environmental data are presented in two ways—absolute and normalized:
 - Absolute emissions indicate the total amount emitted by the sector nationwide, reflecting the actual environmental impact at a given time.
 - Normalized data are adjusted by amount or value of product produced. Normalizing illuminates performance trends without highlighting changes caused by increases or decreases in production due to price or other externalities.²
- Economic trends over the period covered: 1996-2005
- Maps showing sector facility locations or concentrations
- New or expanded sectors:
 - Chemical Manufacturing
 - Food & Beverage Manufacturing
 - Oil & Gas
- Expanded information on indicators such as energy use and greenhouse gas (GHG) emissions

Major Sources of Data

Energy

Most of our energy use data come from the U.S. Department of Energy's (DOE) statistical agency, the Energy Information Administration (EIA). Every four years, EIA sends many manufacturers the Manufacturing Energy Consumption Survey (MECS) and extrapolates the responses to represent the full universe of manufacturers.³

Criteria Air Pollutants

Data on criteria air pollutants (CAPs) come from EPA's National Emissions Inventory (NEI). EPA prepares this national database every three years, based on input from state, tribal, and local air pollution control agencies; industry-submitted data; other EPA databases; and EPA emission estimates.⁴

Air, Water, and Waste in the Toxics Release Inventory

Data on other air emissions, on water discharges, and on management of chemicals in waste are from EPA's annual Toxics Release Inventory (TRI), based on reports filed by more than 23,500 facilities across the country.⁵

Toxicity of Air Emissions

EPA's Risk-Screening Environmental Indicators (RSEI) model generates the relative toxicity scores for air emissions.⁶

Hazardous Waste

Pursuant to the Resource Conservation and Recovery Act (RCRA), information on hazardous waste generation is from EPA's *National Biennial RCRA Hazardous Waste Report* (BR), based on reports from large quantity generators and treatment, storage, and disposal facilities.⁷ Note that,

Key to our work is collaboration with numerous stakeholders, including particular trade associations that participate in our program. They are:

Cement Manufacturing	Portland Cement Association
Chemical Manufacturing	American Chemistry Council Synthetic Organic Chemical Manufacturers Association
Colleges & Universities	American Council on Education Association for the Advancement of Sustainability in Higher Education Association of Higher Education Facilities Officers Campus Consortium for Environmental Excellence Campus Safety, Health and Environmental Management Association National Association of College and University Business Officers
Construction	Associated General Contractors of America
Food & Beverage Manufacturing	American Meat Institute Grocery Manufacturers Association
Forest Products	American Forest & Paper Association
Iron & Steel	American Iron and Steel Institute Steel Manufacturers Association
Metal Casting	American Foundry Society North American Die Casting Association
Oil & Gas	American Petroleum Institute American Exploration and Production Council Independent Petroleum Association of America
Paint & Coatings	National Paint & Coatings Association
Ports	American Association of Port Authorities
Shipbuilding & Ship Repair	American Shipbuilding Association Shipbuilders Council of America

unlike TRI, BR tracks entire waste streams, rather than only certain chemicals.

Key Data Considerations

Sector Definitions

Many data sources reflect only certain segments of a sector; others define certain sectors more broadly than we do. Most often, sectors are defined either by standard classification codes, such as the North American Industry Classification System (NAICS), or by lists of facilities based on our sector definitions. Endnotes for each chapter, and the Data Sources, Methodologies, and Considerations chapter, clarify how each sector is defined for our work and for the various databases used to generate data.

Data Completeness

Reporting thresholds and other factors influence how many facilities report to a given database and the extent to which they report on their overall footprint. The number of facilities within a sector that report to a particular database, or that report different media impacts within a database (such as air or water), can differ significantly, even within a sector. See the Data Sources, Methodologies, and Considerations chapter and sector chapter endnotes for discussion of data completeness.

Currency of Data

We use the most recent data available, but few databases are updated at the same time. See individual endnotes and the Data Sources, Methodologies, and Considerations chapter for information about the currency of the underlying data. Depending on data availability, the time period covered may vary from the years this report generally covers, which are 1996–2005.

Drivers and Barriers

The Sector Strategies Program analyzes many regulatory and nonregulatory factors that affect environmental management decisions among facilities in a given sector. These behavioral leverage points can influence the environmental performance of a facility or sector on one or more metrics. We consider these legal, technical, economic, behavioral, and other factors to be better able to develop policy and program actions that will provide strong drivers and reduce major barriers to improved environmental performance. However, the factors are beyond the scope of this report, which focuses on available quantitative data trends.