



At a Glance

Catalyst for Improving the Environment

Why We Did This Review

We sought to determine whether the air emissions factors used by the Environmental Protection Agency (EPA) are of acceptable quality for making key environmental decisions, and whether EPA's process for developing, improving, and rating emissions factors is sufficient to meet users' needs.

Background

Emissions factors are broad estimates of the emissions generated from a source, such as a factory. Nationally, emissions factors are used for about 80 percent of emissions reporting. An emissions factor is a representative value that attempts to relate the quantity of a pollutant released with an activity rate associated with the release. Emissions factors underlie many environmental decisions. Recently, States and industry have been developing emissions factors and submitting them to EPA.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link:
www.epa.gov/oig/reports/2006/20060322-2006-P-00017.pdf

EPA Can Improve Emissions Factors Development and Management

What We Found

EPA has made progress in emissions factors development since our review of the program in 1996, but a large number of factors continue to be rated low. The number of EPA-rated factors increased by nearly 94 percent, from 8,838 in 1996 to 17,110 in 2004. However, the percentage of emissions factors rated below average or poor increased from 56 percent in 1996 to 62 percent in 2004.

Emissions factors, intended for use in developing emissions inventories, have been inappropriately used for key environmental decisions beyond their intended use. For example, emissions factors have been used for non-inventory purposes, such as setting permit limits and reporting the level of air pollution control at specific facilities. For three industry sectors EPA examined, inappropriate use of emissions factors contributed to more than one million tons of pollutants not being controlled. Demand for emissions factors is increasing, and will continue for a broad array of environmental decisions, including measuring and reporting environmental progress. This pertains not only to existing factors but to those that still need to be developed, especially emissions factors for sources of fine particulate matter. If EPA can improve the quality of its factors, this should improve environmental decision-making for reducing air pollution. Improving the quality of emissions factors is an extremely challenging task that may take EPA years to address.

The quality of many emissions factors remains low in part because EPA did not have a sufficient process for developing, improving, and rating emissions factors, nor did EPA have a comprehensive strategic plan. We found inconsistent emissions factors guidance, continuing reliance on a qualitative rating system when a quantitative range of uncertainty is needed, and insufficient program funding when needs are increasing.

What We Recommend

We are making a number of recommendations to EPA to, among other things, develop emissions factors guidance that addresses the development and appropriate use of emissions factors for non-inventory purposes; establish a rating system that provides the quantitative range of uncertainty for emissions factors for both inventory and non-inventory purposes; work with industry, State and local agencies, and others to leverage available resources for meeting increasing demands for new factors; and establish a workgroup to develop a comprehensive strategic plan for the Emissions Factors Program, and ensure that requested resources are used to achieve program goals. In response to the draft report, the Agency stated that our recommendations generally align with its current improvement efforts.