

C.2 IN THE UNITED STATES

Methodology: Emission calculations for the United States have been made on a broad national scale as well as on a much more refined scale. Similar methodologies have been employed in making these calculations.

Historically, data records on emissions and emission rates have been maintained only since the early 1970's. Consequently, in order to recreate such emissions, it is necessary to use other information. One of the most accepted approaches to retrospectively calculating emissions is to employ fuel use data. Records on these data are available and provide an indication of how various type fuels have been consumed by different type sources. Knowing the emission rates of various sources, the sulfur content of the fuel, and the type of emission controls on a particular type source, it is possible to estimate the emissions of various source categories.

Data Uncertainty: It is extremely difficult to provide an accurate estimate of the data uncertainty in making the above calculations. Generally, the fuel use data on a national scale are quite accurate. However, as one attempts to extrapolate fuel use to a particular type, some errors of uncertain magnitude enter. Moreover, records on the chemical analysis of the fuel were not maintained until the 1960s and therefore one must make assumptions for such important factors as sulfur content of the fuel used.

Generally, it is felt that the emission estimates for the utility sector are probably within 25% accuracy for the post-1965 years; however, no accuracy figures are available for the pre-1965 estimates.

No attempt has been made to assess the accuracy of the calculations for other sources, except to examine the general trends exhibited to determine areas where the trends are well outside of what might be expected.

National Trends in Emissions: Table C.2.1 provides a summary of the emissions of various air pollutants in the United States between the years 1940 and 1976. The data in the table are the estimated total emissions throughout the United States for the year of record indicated. Additional information on the total national emissions from various sources along with an expanded discussion of the procedures for calculating these emissions can be found in the publication "National Air Pollutant Emission Estimates 1940-1976", EPA-450/1-78-003, July 1978, available through the Office of Air Quality Planning and Standards, U.S. EPA, Research Triangle Park, N.C. 27711. Table C.2.2 provides an indication of the information contained in the above references.