

B.3 PROJECTED EMISSIONS (SO₂ AND NO_x)

B.3.1 United States

Projections of emission baselines for utility and non-utility sectors continue to be updated and have been expanded since the publication of the U.S./Canadian Interim Report in February, 1981. Two sets of projections are presented here. First, national emission projections are provided by sector in Table B.3.1-A and Table B.3.1-B. Second, state-level total emission projections, aggregating all sectors for each state, are presented in Table B.3.2-A and B.3.2-B, as specified in the terms of reference of the Work Group.

These state-level projections of emissions were made using different models for each sector, as summarized in Table B.3.3. These models generally agree on the growth rate assumptions and reflect GNP growth in the range of 2 to 3 percent/year. However, a variety of methods, data bases of various vintages, and range of state and regional growth rates were used for each sector. An effort to cross-check all of these assumptions and the implied changes in fuel prices and demand elasticities has not been made.

The following discussion presents the methodologies and assumptions used for making emissions projections for each of the sectors individually. A more comprehensive discussion is found in Appendix 6.

The state-by-state estimates should be used with considerable caution. Generally, state-by-state projections within a sector are subject to even greater uncertainty than national projections for that sector, as decisions to shift locations of combustion activity, either individual plants, industries, or population can represent a large percentage change in total emissions for a state. Furthermore, the limits to our knowledge of current emissions sources, which serve as a basis for state level projections, will constrain our projections. The reliability of state-level data will vary by sector. These and other uncertainties and constraints for each sector are discussed in Section E.

New projections for utility emissions are based upon the new 1980 utility plant data for individual units, and new assumptions about future demand growth. Assumptions concerning coal usage by industrial combustors are of primary importance to SO₂ emission projections; recent estimates of industrial coal use are significantly more conservative than those of early 1981. Recent smelter closings have also caused us to revise emission projections from that sector. Emission projections for the Residential/Commercial, Transportation, and Industrial Process sectors have been updated based on revised energy demand published in the NEP in July, 1981.