

reaching 0.6 million tonnes in 1976. Close to 90% of this total was emitted within eastern Canada.

Sulphur dioxide emissions from the combustion of fuels for industrial, commercial, and residential purposes decreased from 1955 to 1965, largely because of the switch away from coal as the primary fuel, before increasing and reaching in 1976 levels comparable to those of 1955, i.e., about 1.0 million tonnes, because of greater activity in the industrial market. In 1976, about 75% of other combustion emissions were from industrial fuel combustion sources. In 1955 and 1965 this contribution was closer to two-thirds of the total emissions. SO₂ emissions from transportation sources in 1976 were about equally due to gasoline-powered motor vehicles, diesel-powered engines, and railroads. Emissions from gasoline-powered motor vehicles quadrupled from 1955 to the mid-1970's.

The iron ore processing sector contributed close to 0.2 million tonnes of SO₂ in 1976, i.e., about twice the level of 1955. Such processing involves the mining and beneficiation of the ore by sintering or pelletizing operations to produce a suitable blast furnace feed. Other industrial processes, included under "others" in Tables C.3.1 and 2, saw their SO₂ emissions increase from 0.4 million tonnes in 1955 to 1.0 million tonnes in 1976 due largely to increased productivity in various sectors of the economy. Three-quarters of these emissions came from western Canada.

It is difficult to measure the uncertainty of the SO₂ inventories for 1955 and 1965. However, because of the source of the data used to estimate emissions from copper-nickel smelter complexes (2), and the fact that this sector contributes significantly to total emissions, the confidence level of the historical emissions inventory of SO₂ is greatly increased. An analysis made of the 1976 inventory has indicated that the overall SO₂ inventory for Canada is accurate within $\pm 30\%$ of the true value at a 75% confidence level (2).

A map of eastern Canada divided on the basis of 127 km x 127 km grid cells, along with an indication of the magnitude of 1976 SO₂ emissions for each cell according to five ranges of emissions, is presented in Appendix 2.

Total emissions of NO_x have increased significantly, from a level of 0.3 million tonnes in 1955 to 1.9 million tonnes in 1976, due largely to increases in power plant and transportation sector emissions. The increase in demand for power and electricity has resulted in the building of more power plants, causing NO_x emissions to reach a level of 0.2 million tonnes in 1976, compared to much less than 0.05 million tonnes in 1955, and 0.05 million tonnes in 1965. Gasoline-powered motor vehicle NO_x emissions