

For porous materials such as masonry, the long-term accumulation of pollutants is a major concern especially for deterioration associated with sulphate.

Materials at risk and some active corrosion agents have been identified in numerous field and laboratory tests. Confidence in dose-response relationships is weakened in some cases because of incomplete monitoring of air quality and meteorological parameters in field tests.

1.6 METHODOLOGIES FOR ESTIMATING ECONOMIC BENEFITS OF CONTROL

Traditionally, the decision-making process has required an appreciation of the costs and benefits associated with following a prescribed set of actions. Basic to this process has been the transformation of the implications of these actions, (i.e., converting changes in crop yield and fish catches, into comparable units of measurement). Monetary units are widely accepted as providing comparable weighting units for individual variables. In order to provide the Canada/United States Coordinating Committee with guidance in this important area, the Work Group has undertaken a review of the methodologies available for assessing the economic benefits of controlling long-range transport of air pollution.

The following are the conclusions of the Work Group:

A number of methodologies have been reviewed but presently the basic conclusion of this effort is that application of available approaches for conducting a benefit/cost analysis must either omit real but intangible benefits or include a wide uncertainty range. Despite these real limitations, these methodologies can provide a useful estimate of benefits for some sectors.

There are several techniques which can be applied to determine the primary economic benefits associated with a particular receptor category recognizing that option and legacy values are not captured. However, the lack of data on dose-response relationships limits the application of most of these techniques at this time. For some sectors, differences in producers' income may provide benefit estimates even in the absence of explicit dose-response data.

The value of the secondary benefits can be estimated for specific economic sectors and regions, to derive a partial estimate of the impacts in various geographical areas.

It is evident that more economic research is required. Economic techniques have yet to be rigorously tested in some sectors, such as historical value, and are limited in their treatment of option and legacy values, and in dealing with the issues of property rights.