

## **CHAPTER 8**

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### **RECENT REFINEMENTS AND FUTURE ACTIONS**

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## **INTRODUCTION**

The socioeconomic report for the 1994 AQMP identified key areas where future refinements would be necessary. This chapter discusses the progress in these refinements. Despite the use of a variety of tools and the inclusion of these refinements in assessing the socioeconomic impacts of the draft 1997 AQMP, the tools and refinements are not capable of addressing all of the important public policy questions that have been identified. The assessment of issues that cannot be adequately addressed with the tools and data already in use requires linking information from multiple fields and more data than what are currently available. Overcoming these constraints will require interdisciplinary research, data collection, and a combination of approaches over a number of years. The District plans to continue to work with the Socioeconomic Technical Review Committee (SETRC), the Ethnic Community Advisory Council (ECAC), and other interested parties to advance the preparation of our socioeconomic assessments.

Alternative approaches to analyzing the issues that are not amenable to the methodologies and models used for the draft 1997 AQMP will be pursued for use in the socioeconomic assessments of future AQMP revisions. Described below are recent refinements and alternative approaches/issues that need to be further explored. The District will also explore the potential to jointly fund these projects with other agencies and the business community.

## **BENEFITS OF CLEAN AIR**

The socioeconomic assessment of the draft 1997 AQMP makes significant progress in quantifying health effects of improved air quality. Recent epidemiological studies have found additional associations between ambient concentrations of pollutants and health effects. These studies have also increased the level of confidence in those associations.

Four health effects resulting from ozone and PM10 were quantified in the 1994 AQMP. In the draft 1997 AQMP, seven such effects are quantified. Two of the seven effects, mortality and restricted activity days, are updates of those in the 1994 AQMP. The remaining five newly quantified effects incorporate, but are more specific than, the remaining two quantified effects (symptoms and behavioral responses) in the 1994 AQMP.

The health benefit assessment of future AQMPs and other District actions will continue to advance and expand. The interpretation of assessments will become increasingly important as more dimensions are added to quantitative and qualitative measurements of health effects. In terms of quantifying mortality risks, changes in life expectancy may be considered, in addition to the number of premature deaths. Separation of the effects of different pollutants will help examine the correlation of pollutants. Future studies on specific segments of the population at risk will help reduce the potential for double counting of health effects of different pollutants and possibly identify pollutant thresholds below which health effects may not be significant.

The socioeconomic analysis of the draft 1997 AQMP updates the visibility benefit by incorporating the finding of recent research that shows that real estate property values capture

home buyers' estimation of better health as well as a better visibility aesthetic. To recognize this effect, the visibility benefit has been adjusted to avoid double counting of the health benefit.

## **COSTS OF CLEAN AIR**

There are 45 control measures with emission reductions in the draft 1997 AQMP of which about 62 percent were quantified with costs. The increased number of quantified measures is an improvement over the 1994 AQMP analysis. Additional measures will be quantified as technology becomes commercially available.

Projected costs of a technology before its implementation are, very often, different from the actual costs. The actual costs are likely to be lower than the projected costs. This is generally due to the cost reductions which occur as technology moves from innovative to proven. Furthering the likelihood that this analysis over rather than under predicts costs is the fact that the District has revised compliance dates for those rules where the projected technology is not readily available for implementation.

To increase regulatory flexibility, the District has proposed alternatives to command-and-control regulations. These alternatives include the Air Quality Investment Program (AQIP) and the Universal Trading Credit (UTC) Program. The District is committed to quantifying the costs of these alternatives and identifying which groups might be affected advantageously or disadvantageously.

## **DISTRIBUTIONAL IMPACTS**

The socioeconomic analysis of the draft 1997 AQMP uses the distribution of the required emission reductions of point and area sources in the four-county area to better associate costs of control measures with these sources on a geographic basis. The linkage between emissions, ambient concentration of pollutants, and the 1990 Census data provides not only a baseline socioeconomic profile of affected industries but economic impacts of the emission reductions on the entire population and economy.

Since the 1994 AQMP, surveys were conducted on restaurants and the universe of the previously proposed VOC RECLAIM program. The intent was to establish background information to address any disparate effects air quality regulations might have on various sizes of firms. This approach will continue to be utilized, as necessary, in the rulemaking process.

## **COMPETITIVENESS**

Local firms that sell products in national or international markets have to compete with firms located in less polluted regions or those subject to fewer regulations. Existing tools for the analysis of competitiveness focus on the impacts at the national or macroeconomic level. Impacts at this level are normally small, statistically insignificant, or inconclusive. Since the 1994 AQMP, the District has focused more on examining profiles of companies affected by individual rules to supplement the macro-level analysis. The profiles include annual sales of average firms, the total number and size of affected firms, and the number of employees and

profit margins of affected firms. This micro-level analysis is possible in those instances where affected companies can be specifically identified.

The District is preparing to develop additional parameters for evaluating competitiveness impacts. These parameters are the share of locally-produced goods in total sales, firms moving out of the area or going out of business, changes in profits, the use of substitute products, and changes in the pattern of industrial organizations. This approach will help examine the extent to which clean technology induces innovation that creates new economic opportunities and thus increases competitiveness in the region.

## **ENHANCEMENTS**

The 1994 AQMP socioeconomic analysis identified actions which would further enhance the ability to quantify and evaluate the benefits and costs of the proposed Plan. This socioeconomic analysis has accomplished several of these actions and identified others for still future assessment. Table 8-1 summarizes those enhancements which have been accomplished and those still recommended for further action in the assessment of the year 2000 AQMP.

**TABLE 8-1**

Enhancements Achieved and Proposed for Future Action

Topic	Achieved	Proposed for Future
Benefit <b>Quantitative &amp; Qualitative Benefit Assessments</b>	<ul style="list-style-type: none"> <li>• Quantify the known effects of clean air in dollars.</li> <li>• Develop non-monetary descriptors such as chronic illness and improved visibility.</li> <li>• Update the visibility benefit estimate.</li> </ul>	<ul style="list-style-type: none"> <li>• Estimate changes in life expectancy.</li> <li>• Separate multiple pollutant effects.</li> <li>• Examine at-risk population.</li> </ul>
Cost <b>Evaluation of Costs of Advanced Technology and Flexible Regulatory Approaches</b>	<ul style="list-style-type: none"> <li>• Quantify the costs associated with additional control measures.</li> <li>• Compare the projected costs of rules versus the actual costs.</li> </ul>	<ul style="list-style-type: none"> <li>• Examine the differences between command-and-control regulations and pricing or subsidies. (1994)<sup>1</sup></li> </ul>
Distributional Impacts <b>Geographic Information System</b>	<ul style="list-style-type: none"> <li>• Develop additional tools to examine impacts on small versus large businesses.</li> <li>• Survey affected sources and communities.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop automated tools to present socioeconomic and air quality data geographically. (1994)</li> </ul>
Competitiveness <b>Impact of Regional Regulations on Competitiveness</b>	<ul style="list-style-type: none"> <li>• Develop additional tools to refine the District's assessment of impacts of both plans and rules on competitiveness.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess the impact of innovation on competitiveness. (1994)</li> <li>• Assess the impact of local air quality regulations on competitiveness. (1994)</li> </ul>

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<sup>1</sup>Originally proposed in the 1994 AQMP socioeconomic analysis.