Outline of a Policy for Socioeconomic Analysis in Air Quality Rulemaking

This document is a summary of potential changes the Air District is considering to the current approach for conducting socioeconomic analyses (SEA). Socioeconomic analyses are required by state law for proposed rules.

The Air District has often performed a more detailed analysis than required under state law to characterize the impacts of significant rulemakings[1] in more detail. The purpose of this document is to describe a policy to be approved by the Air District's Board of Directors that would standardize when and how the Air District would perform additional analyses beyond what is required by law.

California Health and Safety Code Section 40728.5 requires air districts to actively consider the socioeconomic impact of a proposed rule or regulation and make a good faith effort to minimize any adverse socioeconomic impacts. Section 40728.5(a) of this statute states that:

> Whenever a district intends to propose the adoption, amendment, or repeal of a rule or regulation that will significantly affect air quality or emissions limitations, that agency shall, to the extent data are available, perform an assessment of the socioeconomic impacts of the adoption, amendment, or repeal of the rule or regulation. The district board shall actively consider the socioeconomic impact of regulations and make a good faith effort to minimize adverse socioeconomic impacts, as defined below. This section does not apply to the adoption, amendment, or repeal of any rule or regulation that results in any less restrictive emissions limit if the action does not interfere with the district's adopted plan to attain ambient air quality standards, or does not result in any significant increase in emissions.

[1] Currently, the Air District uses a 10 percent change in Return on Equity as a reasonable if not conservative threshold for a finding of no significant, adverse impact on either competitiveness or jobs. This value is based on "Development of a Methodology to Assess the Economic Impact Required by SB513/AB969" (by Peter Berck, PhD, UC Berkeley Department of Agricultural and Resources Economics, Contract No. 93-314, August, 1995).

Consideration of socioeconomic impacts includes (Section 40728.5(b)):

1. The type of industries or business, including small business, affected by the rule or regulation;
2. The impact of the rule or regulation on employment and the economy of the region affected by the adoption of the rule or regulation;
3. The range of probable costs, including costs to industry or business, including small business, of the rule or regulation;
4. The availability and cost-effectiveness of alternatives to the rule or regulation being proposed or amended;
5. The emission reduction potential of the rule or regulation; and
6. The necessity of adopting, amending, or repealing the rule or regulation to attain state and federal ambient air standards.

1) Core Analytic Principles for Conducting a Socioeconomic Analysis

1. **Problem Statement & Need:** Clearly define the air quality or risk problem, statutory drivers, and need for action (including attainment of state and federal standards, disproportionate and/or local air pollution exposure, exposure to toxic air contaminants, and climate benefits).
2. **Baseline & Policy Options:** Establish a transparent baseline ("without rule") and evaluate a meaningful set of regulatory and non-regulatory alternatives, including compliance flexibilities and staged implementation.
3. **Best Available Data & Methods:** Use peer-reviewed methods (such as EPA 2024 Guidelines) and vetted models/databases; document all assumptions, parameter choices, and uncertainties.
4. **Transparency & Reproducibility:** Provide technical appendices and identify data sources; respond to public comments on methods and adjust when appropriate.

2) Standard Socioeconomic Analysis Contents

A Standard Socioeconomic Analysis report will include the following sections, depending on regulation complexity.

2.1 Statutory Context and Need for Action

- Applicable Health and Safety Code (HSC) sections, federal or state requirements, other needs.

2.2 Baseline Definition

- Regulatory, technological, and market baseline for sectors affected directly by the proposed rule or rule amendments; expected trends absent the rule.

2.3 Directly Affected Entities and Sectors

- Identify facilities/equipment/processes, characterize facility size distribution, and identify any small businesses affected by regulation. Identify any directly impacted environmental justice communities within scope of regulation.

2.4 Compliance Costs

- Engineering cost (capital, O&M, downtime), financing assumptions (capital recovery factors, amortization, equipment useful life), and reporting/recordkeeping, where appropriate.

2.5 Cost-Effectiveness Metrics

- When possible, present $/ton for pollutants reduced (and incremental cost-effectiveness for alternative stringency levels), consistent with CARB methodology (Appendix C: Cost-Effectiveness Calculation Methodology, 2017 Carl Moyer Program Guidelines) or other appropriate methodologies.
- Evaluate regulatory alternatives (e.g., emission limits, performance standards, market-based, phased timelines). Provide incremental cost-effectiveness and reasoned selection.

2.6 Economic Impact Analysis (Regional Macroeconomic/Industry)

- This work is currently conducted when analysis indicates a potentially significant impact on directly affected regulated entities and sectors.
- Apply input–output (I-O) and, when material, macroeconomic modeling (e.g., IMPLAN/REMI) to estimate impacts on economic output and employment. This analysis extends to those entities which may not be directly impacted by the regulation but are indirectly impacted due to shifts in other parts of the economy which are secondary results of the economic impacts on directly impacted facilities.
- Assess impacts on small entities and consider compliance assistance, financing options, or phased schedules to mitigate disproportionate burdens; report household income and assess impact on consumers; report employment/wage effects by sector and geography.
- Assess impacts on consumers, if and where appropriate. Specifically, consumer impacts section of the socioeconomic analysis will assess how costs of the regulation will impact an average household residing within the area affected by the regulation.

3) Enhanced Socioeconomic Analysis required when:

- Overall costs exceed a specified threshold (for example, $10 million/year)
- Cost effectiveness exceeds a specified threshold (for example, $150,000 per ton of $PM_{2.5}$)
- An industrial sector is subject to several significant rules or rule amendments requiring large investments (e.g., refineries) within the past 10 years
- Economic impacts would be directly borne by the general public (e.g., Appliance Rules) or small business (autobody repair)
- Economic impacts are felt by a large number of facility types (e.g. fee rule)
- Rule is expected to have significant impact on the energy or the housing sector and therefore may result in noticeable cost increases for consumers

3.1 Enhanced SEA will include the following elements, in addition to the standard content listed in Section 2 above:

- Cumulative Socioeconomic Analysis of applied new rules / amendments over a 10-year period (including comparison of staff cost estimates to what industry actually incurred to the extent actual cost data is verifiable)
- Cumulative Efficacy Analysis: Did the rule accomplish stated air quality goals?
- Health benefits such as mortality and morbidity reduction
- Socioeconomic impacts of health burdens (e.g., fluidized catalytic cracking units, Rule 6-5)
- Analyze who bears costs and who receives benefits (by sector, size class, income, race/ethnicity and geography) where relevant data is available. Consider the affordability of any consumer impacts by comparing average household costs with other affordability metrics such as income and housing cost burden. Break down and show these impacts by geography and race and ethnicity as appropriate considering any data limitations.

4) Methods and Data Standards

4.1 Costs and Cost-Effectiveness

- **Capital Recovery & Cost Effectiveness:** Use CARB capital recovery factors/cost-effectiveness conventions where applicable; present cost per ton and incremental CE (2017 Carl Moyer Program Guidelines, Appendix C: Cost-Effectiveness Calculation Methodology).

4.2 Economic Impact Modeling

- **Regional I-O/Macro:** Use IMPLAN/REMI or equivalent; document elasticities, market conditions, impact on market and/or elasticities; cost pass-through assumptions, and multi-sector linkages.

4.3 Distributional Analysis

- **Geographic:** Use *CalEnviroScreen* to assess cumulative impact on affected communities.
- **Population Subgroups:** Report results by income, race/ethnicity (using census tract-level data).