

ECONOMIC ANALYSIS OF REGULATIONS

April 5, 2011

1

District Economic Analysis

- Comprehensive process to determine the monetary and social impacts of proposed regulations
- Consists of two separate analyses:
 - Cost Effectiveness (CE)
 - Socio-economic (Socio)

2

Requirements to perform these analyses

- CH&SC §40919 and §40920.6(a)
 - The District is required to analyze the cost effectiveness of new rules or rule amendments that implement Best Available Retrofit Control Technology (BARCT) or all feasible measures
- CH&SC §40728.5
 - Whenever a district intends to adopt, amend, or repeal a rule that will significantly affect air quality or emissions limitations, that agency shall, to the extent data is available, assess the socioeconomic impacts of the action

Rule Making and Economic Analysis Process



Background - Cost Effectiveness Analysis

5

What is Cost Effectiveness (CE)?

$$\text{Cost Effectiveness} \left(\frac{\$}{\text{ton}} \right) = \frac{\text{Compliance Cost} \left(\frac{\$}{\text{year}} \right)}{\text{Emissions Reductions} \left(\frac{\text{tons}}{\text{year}} \right)}$$

6

What type of information is needed?

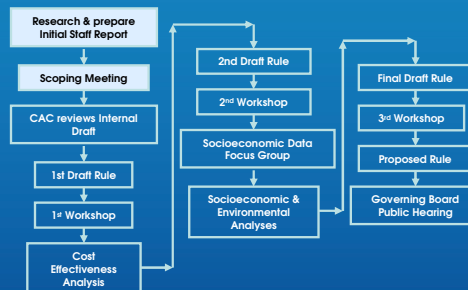
CE analysis incorporates best available information on a control option considering:

- Capital cost
- Installation cost
- Operation and maintenance costs
- Sales and profits data
- Technical data

7

Analysis begins early

- Prior to the draft rule, staff is gathering preliminary cost information
- At Scoping Meeting draft rule concepts presented and stakeholders asked to provide specific cost and technical data, and participate in the economic analysis of prospective controls as part of a focus group



8

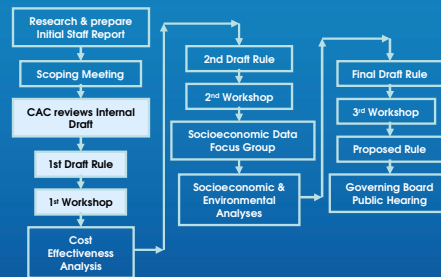
Compiling preliminary cost information

- Based on draft rule concepts staff works to refine cost information from:
 - Previous rule development projects
 - Equipment Vendors
 - Manufacturers
 - Independent research
 - Affected businesses

9

Rule Development Continues

- Based on scoping meeting comments, 1st Draft Rule and Draft Staff Report presented at the first workshop
- **NOTE:** This rule package does not have a draft cost effectiveness analysis
- Cost effectiveness discussions begin



10

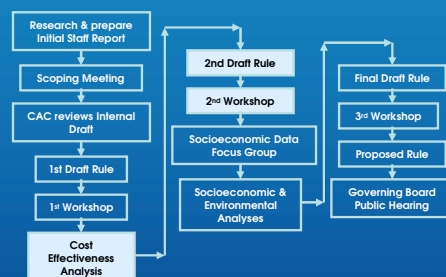
Challenges of Collecting Relevant Cost Data

- During Scoping Meeting
 - Conceptual rule, no defined limits or technologies
- During 1st Workshop
 - Limited time to review draft rule, unable to fully determine rule impact (i.e. timing)
- Other obstacles encountered
 - District regulations are technology forcing and often a lack of historical data on cost and performance of proposed controls
 - Businesses reluctant to share due to proprietary information
 - Timing of cost data submittals

11

Draft Cost Effectiveness Analysis Continues

- First draft CE analysis is presented to the public during the second workshop.
- CE analysis is refined as the rule progresses



12

Summary of Challenges

- Timing of cost data submittals
 - Information not received in a timely manner
 - Overlap in internal processing and review periods
- Accuracy of cost estimates
 - Source of information (vendors vs. manufacturers vs. industry)
 - variability of equipment within the regulated industry

13

Summary of Challenges (cont'd)

- Obtaining cost data becomes difficult
 - If costs are considered proprietary by operators
 - Well-documented costs are becoming increasingly rare
- In the past, differences between industry costs and the District costs haven't been completely resolved

14

Background - Socioeconomic Analysis

15

What's the difference?

- Cost Effectiveness Analysis serves to evaluate the costs of obtaining specific emission reductions
- Socioeconomic Analysis assesses probable costs to industry and small businesses and impact on employment and Valley economy

What is a Socioeconomic Analysis anyway?

- Compliance costs (\$/year) are compared to the estimated annual net profit
- Comparison of the ratio of cost to profit
 - If Impact is less than significant, no further economic analysis
 - If Impact is significant, further analysis is required

17

Who does the Socio?

The District currently retains an independent economic consultant to evaluate the socioeconomic impact for rule projects

18

The 9-step process to create the Socioeconomic Analysis

1. Define proposed rule and alternatives
2. Prepare regional economic profile
3. Data collection
4. Estimate direct costs of compliance
5. Calculate cost effectiveness of rule and alternatives of rule
6. Screen rule for potentially significant economic impacts
7. Calculate direct impacts on directly affected businesses
8. Calculate total regional impacts (Direct, indirect, and induced)
9. Document Socio impacts.

19

Sharing of data with consultant

- As soon as data becomes available, but before the second public workshop
- Staff supplies to economic consultant
 - Compliance cost data
 - Lists of affected businesses
 - Draft cost effectiveness analysis
 - Costs provided by affected industry

Consultant conducts independent research

- Gathers information about specific businesses and the general economy
 - Number of employees
 - Total payroll costs
 - Total revenue or sales
 - Pre-tax profit margin as a percent of total revenue or sales
- Goal is to prepare regional economic profile and estimate profit data

21

What sources are utilized?

- Data for profit estimations
 - Dunn and Bradstreet
 - The IRS
 - Corporate annual reports of applicable companies
 - Rarely local operators because of proprietary reasons
- Information sources include
 - 2002 Economic Census
 - US Bureau of Census' Annual Survey of Manufacturers
 - Minnesota IMPLAN Group
 - State of California's Employment Development Department Labor market Information Division

22

Significant Impacts require further analysis

- For significant impacts, consultant will report:
 - Whether affected sources are likely to reduce business operations to accommodate the increased costs
 - Number of direct job losses
 - Number of indirect job losses
- District may revise rule requirements to address significant impacts

25

Public review of Socioeconomic Analysis

- Socio is presented with the draft rule package at the third public workshop
- To the extent possible, District staff minimizes significant economic impacts by evaluating alternatives, adjusting proposed limits or extending compliance schedules



26

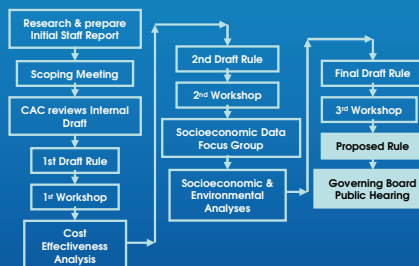
Summary of Challenges

- Original Socioeconomic Report not revised. Rather, an addendum is prepared to reflect changes made to the analysis
- Addendums have lead to some confusion since the body of the analysis is still based upon an early draft of the regulation

27

Final approval by Governing Board

- The Socioeconomic and Cost Effectiveness analyses are presented to the Governing Board during the Public Hearing



- The Governing Board ultimately determines the balance between air quality improvement and economic impact

28

Public Hearing - Examples

A discrepancy between District costs and Industry costs

- Rule 4354 (Glass Melting Furnaces) October 2008
- District costs were challenged at the Public Hearing by Industry
- Board adopted the amendments but ...
 - Update Report with new Cost data from industry
 - Do not submit amended rule to EPA
- April 2010. Report to the Board
- September 2010. Board approved action to submit rule amendments to EPA

Inadequate cost data

- Rule 4692 (Commercial Charbroiling) June 2009
- District costs were challenged at the Public Hearing by Industry
- Industry focused costs on the most expensive option
- Board postponed adoption of the amendments
 - Directed staff to meet with Industry
- Board adopted revised draft amendments September 2009

Unrevised Socioeconomic Reports cause confusion

- Rule 4311 (Flares) June 2009
- Socioeconomic Report reflected a previous draft of the rule
 - Socio stated Odwalla was potentially significantly impacted by the rule
- Board members questioned high compliance costs and socioeconomic impacts to Odwalla
- Addendums born from this project

Next Meeting

- Please bring recommendations to discuss at the next meeting
- May 3, 2011
 - 1:30 PM ?
 - In-person: Fresno office
 - VTC: Modesto & Bakersfield offices

33

Thank you

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