

Clean Air Act Second Prospective Study

Agency Analytical Choices & Documentation Plan

**Briefing for 812 Council
September 2, 2010**



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Presentation Outline

- ⇒ Elaborations on Agency choices re Council recommendations
- ⇒ A few residual fixes ...
- ⇒ Plan for finalization of documents and records

Elaborations on Agency Choices

⇒ Session 1

⇒ # 14... Compare simulated air quality with prior years, other locations

⇒ Session 2

⇒ # 22... Consider an alternative learning curve approach

⇒ # 24... Explain sequence of controls – is it important?

⇒ # 25... Expand explanation of \$15K/ton cost for unidentified controls

⇒ Session 3

⇒ # 17... Consider issue of non-marginal changes for mortality risk

⇒ Session 4

⇒ # 9... Use of CMAQ SO₂ inputs for materials damage estimates

⇒ # 20... Exclude nighttime hours from visibility calculations

⇒ Session 7

⇒ # 6... Expansion of the distribution of benefits

⇒ # 15... Incorporate lead and CFC benefits

Agency Choices – Session 1

- ⇒ [# 14] *Air quality comparisons*: Comparisons to other cities and time periods were explored... but after issuance of the current draft reports.
 - ↳ Six cities multi-year observations are in the same ballpark as 812 scenario single-year population-weighted estimates.
 - ↳ Without-CAAA90 scenario maxima are difficult to compare with high pollution non-U.S. cities given differences in pollutants measured, averaging and sampling periods

Agency Choices – Session 2

⇒ [# 22] *Alternative Learning Curve Approach*: Acknowledge that learning curve may not be clear to all.

↳ Significant value to EPA, though, using terms and values found in empirical literature and following prior SAB advice on how to apply.

⇒ [# 24] *Sequence of controls*: Sequence matters only for parsing whether source of regulation: national or local rules.

↳ Both categories of rules rely on same unit cost database (EGUs are exception).

↳ Unclear how to modify the document to address Council's point.

Agency Choices – Session 2 (con't)

⇒ [# 25] *Basis for \$15K per ton Cost Estimate*: Assumption rests on reasoning that per ton costs exceeding \$15,000 will motivate technological improvements or alternative or innovative measures to avoid incurring exorbitant control costs. Other factors:

- ↪ *South Coast guidance*: In response to concerns that costly controls may be required to meet the SIP obligations, SCAQMD has established a threshold of \$16,500 per ton of VOC reduction. Signals reluctance to implement measures with costs above this threshold.
- ↪ *“Knee in the curve”*: Many measures in AirControlNET with costs between \$10,000 and \$15,000, options with costs above \$15,000 have “small denominator” and so would not likely be adopted.

Agency Choices – Session 3

⇒ [# 17] *Non-marginal Risk Changes?*: Potential significance of using marginal values for non-marginal change is acknowledged.

↳ No basis for alternative VSL estimates that we are aware of.

Agency Choices – Session 4

- ⇒ [# 9] *CMAQ for Materials Damage*: Did not anticipate need for SO₂ data from CMAQ – so it was not provided.
 - ↳ Would need to be recovered at significant expense.

- ⇒ [# 20] *Daytime Only Visibility*: CMAQ visibility data transmitted as daily values.
 - ↳ Hourly values might be archived, but if so would require significant resources to recover them.

Agency Choices – Session 7

- ⇒ **[# 6]** *Expand Discussion of Distribution of Benefits*: Integrated report provides disaggregation of benefits by pollutant and endpoint, costs by program.
 - ↳ Not possible to cross-walk costs and benefits directly.
 - ↳ New version includes discussion of “marginal emissions change” analysis, but RSM tool does not support expanding.

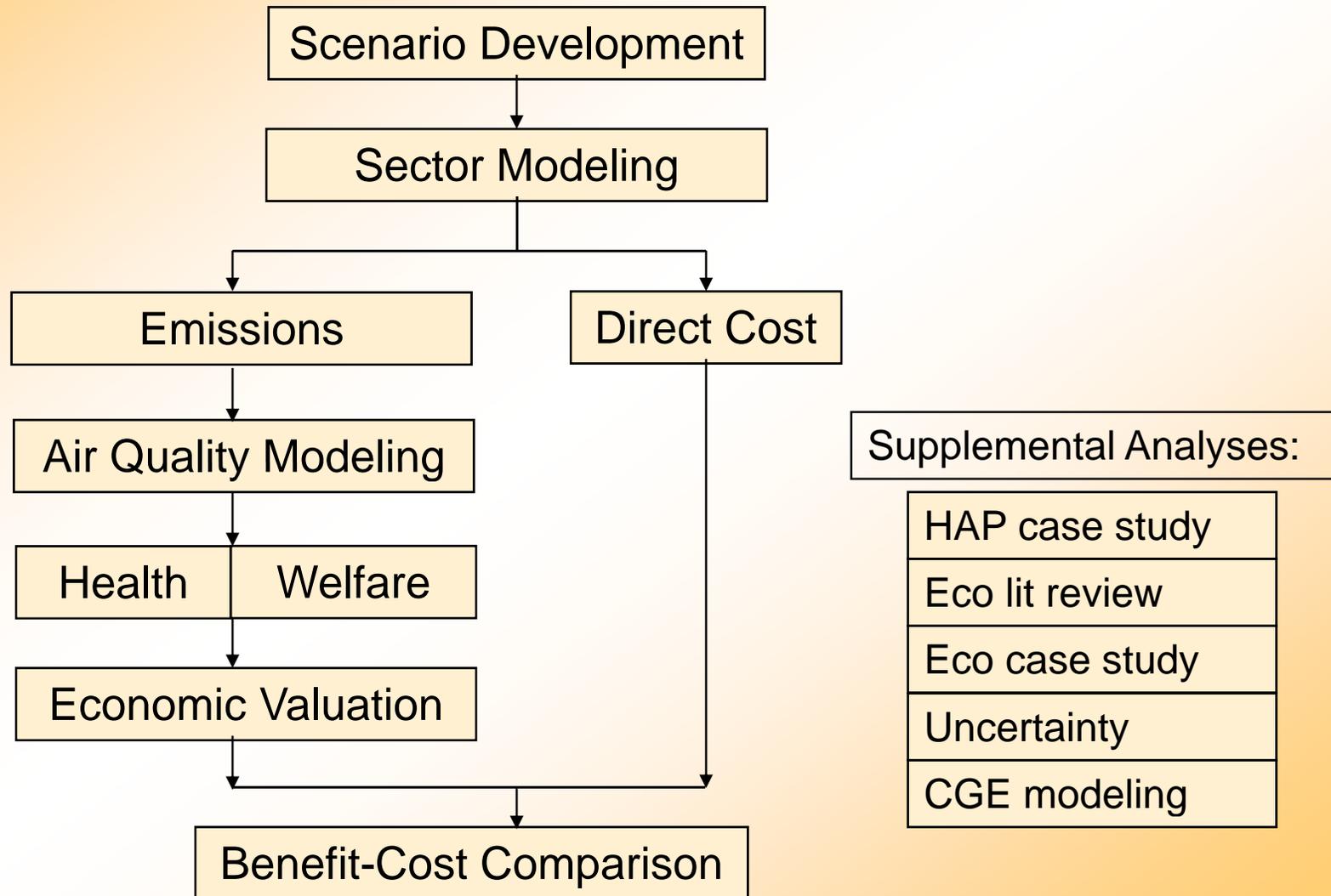
- ⇒ **[# 15]** *Benefits of Lead and CFC*: Introductions to both documents include references for interested reader on where to find this information.
 - ↳ Reporting older estimates, however, might suggest they are consistent with newer estimates.

A few residual fixes...

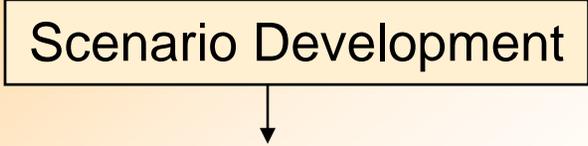
- ⇒ Table 6-6 in the integrated report provides the “old” visibility benefits estimates, prior to the PM2.5 adjustment. The correct estimates, however, are reported in Chapter 7 and in the summary report.
- ⇒ Meant to include the following text to bolster the point on page 7-15 about missing ecological benefits:

“For example, a recent study of willingness to pay to avoid acid rain damage in the Adirondacks, which included a much broader measure of benefits but one which was not readily scalable to our scenarios, estimated annual benefits in NY state of \$340 to \$750 million annually; the high end is almost 100 times larger than the recreational value estimates we generated, illustrating the potential for large unquantified ecological benefits.”

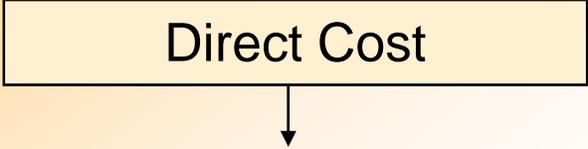
Documentation Plan



Scenario Development

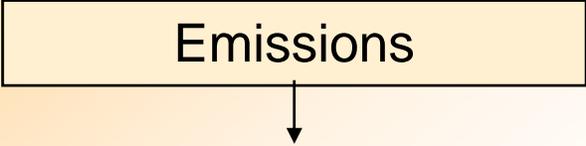


- Current
 - Revised Draft Analytical Plan (2003) [Plan](#)
 - Final scenario specification memorandum to files [Memo](#)
- Planned
 - No further plans



Direct Cost

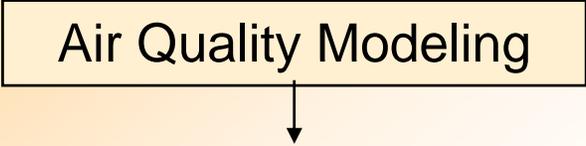
- Current
 - Draft Direct Cost Report (2007) [Report](#)
 - Supplemental Documents
 - Cost estimation topics white paper (2007) [Paper](#)
 - Revised Draft Direct Cost Report (2009) [Report](#)
- Planned
 - Final Direct Cost Report (*projected Fall 2010*)
 - Clarify assumptions about rule effectiveness
 - Resolve Council suggestion re “technological rate of change” vs learning effects



Emissions

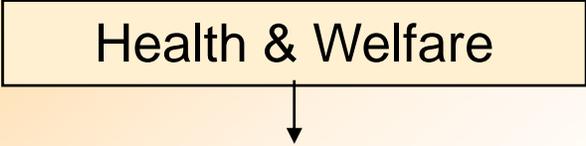
- Current
 - Draft Core Scenarios Emissions Report (2006) [Report](#)
 - Supplemental Documents
 - Alternative for year 2000 EGUs (2006) [Memo](#)
 - Technical memo on Nonpoint PM adjustments (2010) [Memo](#)
 - Technical memo on PM adjustments and MATS (2010) [Memo](#)
- Planned
 - Final Emissions Report (*projected Fall 2010*)
 - Update to reflect adjustments to direct PM emissions from select non-point sources and non-EGU point sources

Air Quality Modeling



- Current
 - Draft Air Quality Modeling Report (2008) [Report](#)
 - Supplemental documents
 - Air Quality Model Selection Memo (2006) [Memo](#)
 - Description of Response Surface Model (2006) [TSD](#)
 - CMAQ Model Performance Evaluation for 812 (2009) [Report](#)
 - Technical memo on PM adjustments and MATS (2010) [Memo](#)
- Planned
 - Air Quality Overview Memo (*projected Fall 2010*)
 - Describe, reconcile, and reference underlying documents
 - Also, link to corrected data sets for CMAQ and MATS

Health & Welfare



- Current
 - Draft Health & Welfare Benefits Report (2010) [Report](#)
 - Supplemental documents
 - BenMAP User's Manual [Manual](#)
 - Alternative presentation of PM Expert Elicitation Results [Briefing](#)
 - PM2.5 and ozone mortality using Jerrett et al 2009 [Memo](#)
- Planned
 - Final Health & Welfare Benefits Report (*projected Fall 2010*)
 - Update health and visibility benefits to reflect adjusted PM
 - Add FASOM results
 - Revise and update summary of benefits estimates in Chapter 6

HAP Case Study

- Current
 - Draft Benzene Case Study Report (2008) [Report](#)
 - Final Benzene Case Study Report (2009) [Report](#)
- Planned
 - No further plans

Ecological

- Current
 - Draft Ecological Effects Report (2010)
 - Supplemental document
 - Ecological assessment topics white paper (2007) [Paper](#)
- Planned
 - Final Ecological Effects Report (*projected Fall 2010*)
 - Add description of overarching framework, set context up front
 - Reconsider several points in Adirondack timber case study
 - Expand uncertainty discussion
 - Provide model descriptions, explain model selection decisions
 - Net out timber production costs from changes in resource value
 - Compare Adirondack fishing case study to other studies

Uncertainty

- Current
 - Draft Uncertainty Report (2010) [Report](#)
 - Supplemental documents
 - Uncertainty Analysis Plan White Paper (2007) [Paper](#)
 - Expert Elicitation for PM Uncertainty (2006) [Report](#)
- Planned
 - Final Uncertainty Report (*projected Fall 2010*)
 - Update emissions sensitivity runs to reflect revised PM C-R function
 - Update RSM to reflect revised PM estimates
 - Clarify time series C-R estimates used for ozone sensitivity analysis
 - Incorporate recommendations on Jerrett et al 2009 sensitivity analysis
 - Update to reflect revised population simulation model results

CGE Modeling

- Current
 - Draft EMPAX-CGE Report (2010) [Report](#)
- Planned
 - Final EMPAX-CGE Report (*projected Winter 2010*)
 - Any changes pursuant to current review...
 - ...otherwise stamp draft as final



↓

Benefit-Cost Comparison

- Current
 - Preliminary Draft Integrated Report (2010) [Report](#)
 - Revised Draft Integrated Report (2010) [Report](#)
 - Draft Summary Report (2010) [Report](#)
- Planned
 - Final Integrated Report (*projected Fall 2010*)
 - Fix Table 6-6 to reflect updated visibility benefits estimates
 - Add citation and discussion for Krupnick/Burtraw Adirondacks report to Chapter 8
 - Final Summary Report (*projected Fall 2010*)

Supplemental Outreach Material

- Planned
 - “Conference Brochure” (*projected Fall 2010*)
 - On-line data sets (*projected Fall 2010*)
 - Examples:
 - Grid-level air quality changes (post-MATS)
 - Grid-level health effects changes
 - Web-based Integrated Report (*projected Winter 2010*)
 - Google Earth and other visualizations (*projected Winter 2010*)