SUMMARY OF ARB WORK TO FULFILL AB 32 EVALUATION REQUIREMENTS

Technical Stakeholder Workgroup Meeting
April 25, 2008

Email questions to CCPlan@arb.ca.gov

Outline

- AB 32 Requirements
- Evaluation Plan
- Hypothetical Example
- Questions

AB 32 Requirements

- AB 32 includes
  - Specific evaluation requirements for the Scoping Plan (§38561(d))
  - Additional requirements for ARB in adopting regulations identified in the Scoping Plan (§38562(b))
  - Criteria that must be addressed prior to the inclusion of market-based compliance mechanisms in the regulations (§38570(b))

The language from these sections of AB 32 are included in the white paper

Scoping Plan

- In developing the Scoping Plan, ARB will:
  - Specifically address the requirements for the Scoping Plan in §38561(d)
  - To the extent feasible with the information available, evaluate major program options and recommended reduction measures against the requirements listed in §38562(b) for regulations
  - To the extent feasible with the information available, evaluate major program options against the requirements listed in §38570(b) for market measures

Evaluations for the Scoping Plan

- AB 32 establishes broad evaluation requirements for the Scoping Plan. Section 38561(d) directs the ARB to:
  - Evaluate the total potential costs and total potential economic and noneconomic benefits of the plan for reducing greenhouse gases to California's economy, environment and public health, using the best available economic models, emission estimation techniques, and other scientific methods
- This will require synthesis of information from a wide variety of sources
- To the extent possible, impacts will be assessed quantitatively at the statewide and regional levels

AB 32 Scoping Plan Development

- Measures (actions to reduce GHG emissions)
  - Developed by technical teams by sector
  - Evaluation includes initial information on impacts
- Mechanisms
  - How the action will be implemented (e.g. direct regulation, performance standard, cap and trade)
- Various combinations of measures and mechanisms are being evaluated for the draft Scoping Plan

Air Quality Context

- ARB's mission is to reduce and control air pollution and protect public health
- Ozone and particulate matter plans describe how California will meet health based standards
- Include controlling diesel emissions, cleaning up the ports, and controlling pollution from trucks, ships and railroads
- AB 32's goal is to reduce harmful global warming greenhouse gases
- Scoping Plan measures
  - Overlap with other pollution controls
  - May or may not affect local air pollution

Evaluating Environmental and Public Health Effects of the Scoping Plan

- Criteria pollutants and toxic air contaminants are frequently co-pollutants with GHG emissions
- Start with statewide evaluation of co-pollutant impacts of proposed measures, relative to existing and planned criteria and toxic air pollution controls
- Many measures expected to result in significantly reduced fuel combustion, leading to a reduction in co-pollutants on a statewide and regional basis
- Sector level evaluation will examine potential effects of the measures on co-pollutants from sectors including:
  - Electricity production
  - Oil refining
  - Transportation

Information Sources

- Information developed by sector teams that include staff from ARB and other state agencies that are part of the Climate Action Team
- Information includes estimates of:
  - GHG emission reduction potential
  - Costs
  - Likely co-pollutant effects
  - Other related factors
- This analysis builds on the earlier work done for the Climate Action Team Macroeconomic Report

Measure Evaluations

- Co-pollutant impacts of measures on a statewide sector level
- Range of potential actions at typical facilities within the sector and related indirect emission impacts or benefits (i.e. increase or decrease in truck traffic)
  - Many measures expected to result in reductions in co-pollutants (e.g. reduced fuel combustion due to improved efficiency)
  - Some measures may result in changes to overall regional emission sources including emissions from new facilities
  - Evaluation will consider existing requirements including air district permitting requirements, CEQA and local land use decisions which include mitigation of criteria pollutants and restrictions on exposure to toxics

Program Design Evaluations

- Program design scenarios being evaluated include:
  - Achieving targets through direct regulations, possibly including some flexible compliance options
  - Supplementing direct regulations with a cap and trade system
  - Supplementing direct regulations with a carbon fee
- Evaluation will include a qualitative discussion of the impacts (both positive and negative) of the options and an estimate of the magnitude of the expected benefits or disbenefits
- Evaluation will identify the potential for reduced co-benefits from facilities that use flexibility options or offsets rather than instituting measures to achieve GHG reductions onsite

Hypothetical Example (Bear With Me…)

- Staff evaluation might identify the following reduction options for the widget sector:
  - Option A: Require ten percent GHG reduction at all 25 widget factories in California, with expected reduction due to energy efficiency improvements
  - Option B: Require ten percent GHG reduction from each widget manufacturer, with trading among factories allowed
  - Option C: Include the widget sector in a multi-sector cap and trade system that requires a ten percent decrease in combined GHG emissions from the sectors covered in the system

Hypothetical Example

- For each approach, staff would evaluate the expected statewide effect on co-pollutants from the sector:
  - Option A: the efficiency improvements likely to result in five to eight percent decline in co-pollutants
  - Option B: improvements will be focused on least efficient widget factories, resulting in a greater decrease in co-pollutants at some facilities and smaller at others
  - Option C: depending on cost structure, reductions could come from widget sector or from other sectors
- Assessment of possible approaches will allow staff to "bracket" the likely range of outcomes at a typical facility

Translating the Hypothetical into the Real

- Level of detail will vary depending on amount and quality of information available for different sectors and for different types of facilities
- Focus will be on sectors with significant GHG emissions and on those with significant potential for co-benefits

Evaluating Economic Impacts of the Scoping Plan

- Previous stakeholder meetings have included discussion of economic modeling that is underway using Energy 2020 and E-DRAM
- Key outputs from E-DRAM will include:
  - Effect on gross state product
  - Effect on jobs, total and by sector
  - Effect on household income, by income bracket
- Key outputs from Energy 2020 that support the EDRAM analysis include:
  - Fuel prices
  - Investment and reductions by sector
  - Fuel use by sector
- The economic evaluation will also include a staff assessment of the potential for green technology and related job creation.

Key Questions

- Do you have comments or recommendations relating to the evaluation plan described in the white paper?
- Are there specific additional analyses or analytic tools that ARB should consider using in approaching these evaluations?
- Are there specific additional data sources that ARB should consider using for these evaluations?

Written comments and responses are welcome. Please submit your comments to ccplan@arb.ca.gov by May 9, 2008.

Questions and Comments?

E-mail questions to CCPlan@arb.ca.gov

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