Overview

• Background
• Energy 2020 Model: Base Case
• Environmental Dynamic Revenue Assessment Model (EDRAM)
• Berkeley Energy And Resources (BEAR)
• What’s Next?
Background

- AB 32 Requires Economic Analysis
- Role of Economic Analysis
- Previous Meetings on Economic Modeling
- Multi-Model Path for Analysis
- Bottom-up and Top-down Types of Models
- Current Status of Modeling
Role of Economic Analysis

• To Assess Potential Impacts of GHG Emission Reduction Policies
• To Be Used as an Input into Board’s Decisions

• Important Factors Models Can Help Address:
  ▪ Jobs impacts
  ▪ Income impacts
  ▪ Costs
  ▪ Business Impacts
  ▪ Low-income Household Impacts
  ▪ Emission Reductions
Multi-Model Path for Analysis

- Three economic models to support analysis
- No single model will address all needs
- Each model can provide useful information
- Models can also work together to inform certain policy options
Multi-Model Path for Analysis (Energy 2020 Model)

- Multi-sector model of energy demand, supply, and prices
- Policies disaggregated down to devices and processes
- Evaluation of effects at end-use level
- Results rolled up to sector level
- Bottom-up Model
Multi-Model Path for Analysis (E-DRAM and BEAR)

• EDRAM and BEAR
  – Computed General Equilibrium
  – Policies aggregated to sector levels
  – Evaluation of effects at the sector level
  – A top-down Approach
• Can Be Run Independently
• Both Models Use Similar Data for Development
• Sector Details Differ
• BEAR Accounts for Technology Changes Over Time
Multi-Model Path for Analysis

• Model Integration
  – Energy 2020 investment, prices, and expenditures for
  – Input into EDRAM and BEAR
  – Results
    • Impacts on Jobs
    • Impacts on Income
    • Impacts on Output
Current Status of Modeling

• Energy 2020 Modeling
  – Business-As-Usual
  – Evaluation and basis for scenarios
  – Scenario development
    • Cap and trade
    • Carbon fee
    • All direct regulations
    • Effects of offsets
Modeling

• Intended to Evaluate Policies Relative to Each Other
• Base Case Does not Need to Calibrate Exactly but Rather Approximate Accepted Projections
• Sector Mapping of Energy 2020 to California Data
• Transportation Characteristics
• Emissions Projections
Today’s Workshop

• Base Case Discussions
• Top-down Scenario Modeling Methodologies
  – Core Measures, and
  – Cap and Trade
  – Carbon Fees
  – All Direct Regulations