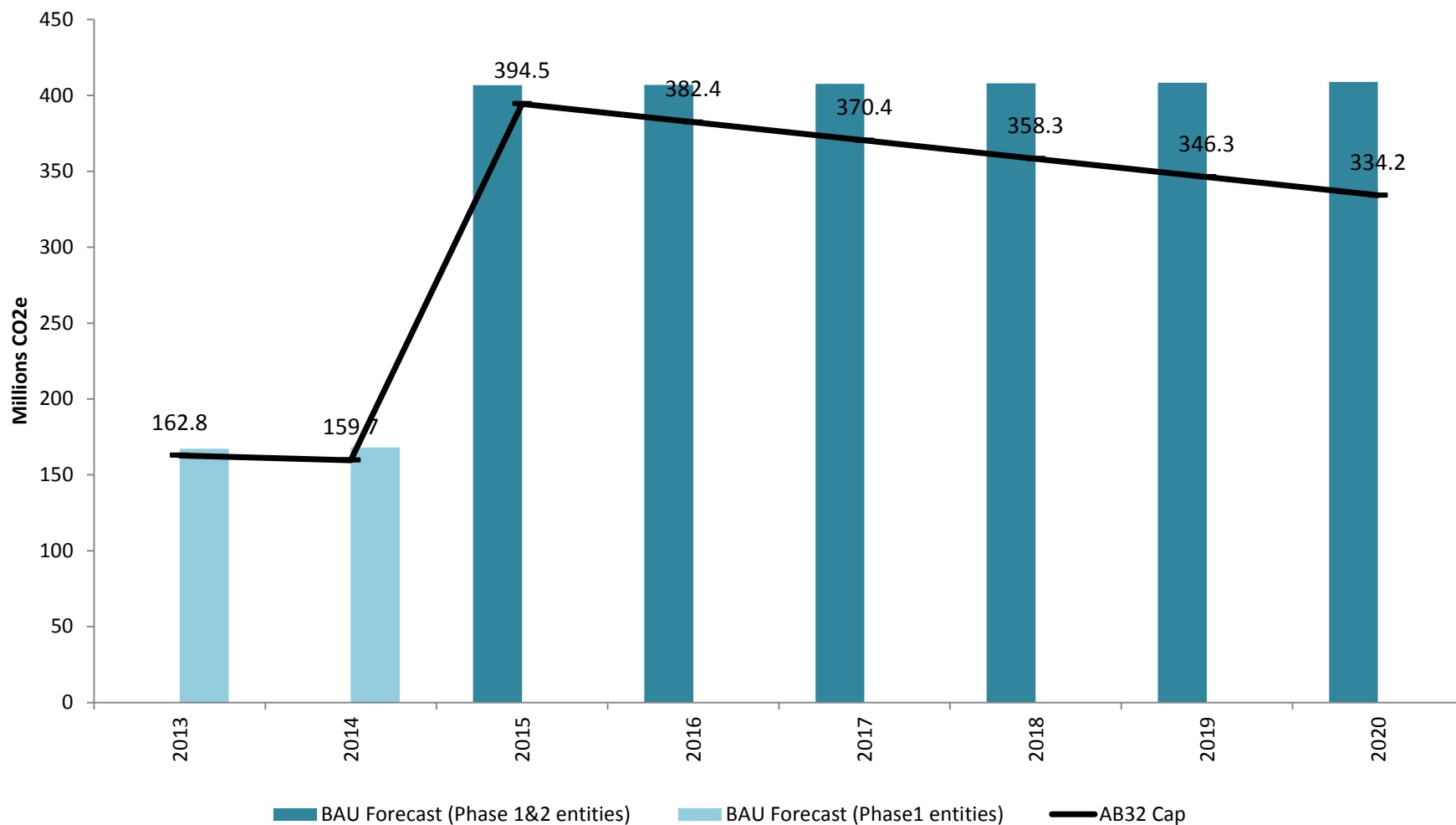


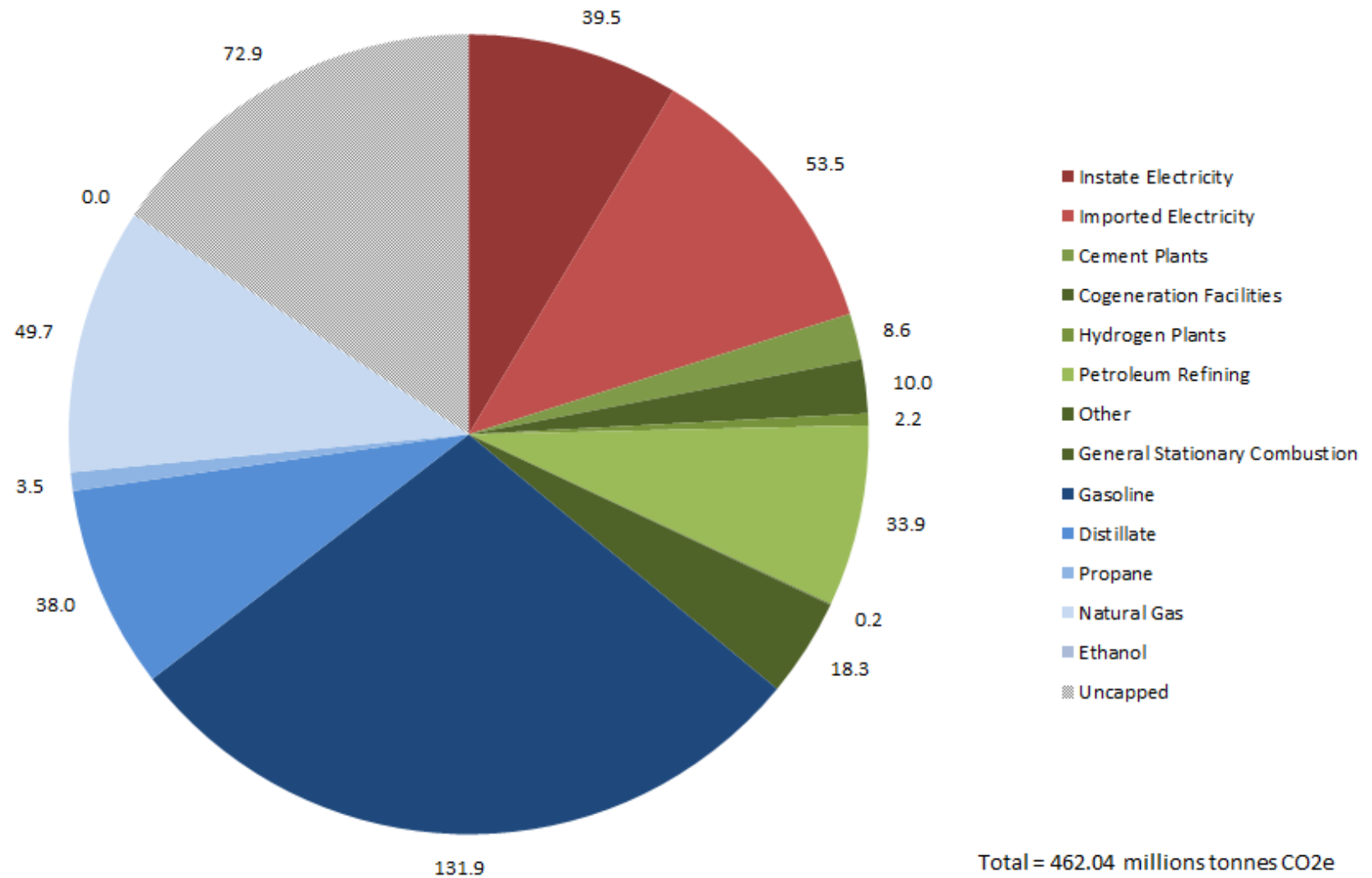
# Update on Market Simulation Group Modeling

September 24, 2012

# Forecasted BAU GHG Emissions Compared to the Allowance Cap Covered Entities Only 2013 - 2020



## GHG Emissions, by Sector and Segment 2010 BAU Forecast



# Supply of Abatement with Containment Reserve

Allowance  
Price

50  
40

0

Complementary  
Measures

Costless  
Reshuffling

Costly  
Reshuffling

Offsets

Electricity Dispatch Changes;  
Industrial Processes Changes;  
Fuels Consumption Changes

GHG Reductions

# Factors in BAU modeling

- Macroeconomic growth and fluctuations
- Energy intensity trends and fluctuations
- Complimentary policies
  - SB1368, LCFS, RPS, CAFE, Fed Policies/Incentives
- Supply shocks: hydro-electricity, fuels, natural gas, OTC retirements

# Electricity Sector

- Reshuffling
- Relabeling
- Scope for dispatch changes

# Industrial Sector

- Output incentives under output-based updating
  - Removes elasticity that the sector would otherwise contribute to the abatement supply
- Production efficiency incentives under output-based updating
- Changes between compliance periods
- Border adjustments instead of output-based updating?

# Non-Industrial Natural Gas

- Level and form of free allocation (fixed or indexed to something) to local distribution companies
- Passthrough from LDCs to customers
- Elasticity of demand (and cross-elasticity with other energy)



# Tailpipe Emissions

- Elasticity of personal and commercial transport with respect to fuel prices
- Medium-run versus long-run elasticities

# Offsets

- Offset supply curve
- Exogenous uncertainties on offset availability
- Regulatory uncertainties on offset qualification

# Other Modeling Issues

- Intertemporal arbitrage over 8 years and 3 compliance periods
- Discrete investments
- Endgame issue in 2020

# “Soft” Uncertainties may drive results

- Willingness of importers to reshuffle
- Offset protocols and barriers
- Willingness to hold allowances for future
  - Confidence in the program
  - Incentives of regulated utilities
- Regulatory incentives for GHG reduction
  - Eg, tariff design

# Outcomes

- Competitive market expected outcome and volatility
  - Scenarios with price near floor
  - Scenarios with price near \$40 or higher
- Potential for market power
- Potential for market manipulation