AB 32 Cap-and-Trade Rulemaking to Reduce Greenhouse Gases

Public Workshop

January 29, 2009

California Air Resources Board

Cap-and-Trade

- Scoping Plan Directive:
  - Implement a broad-based California cap-and-trade program to provide a fixed limit on emissions
  - Link to other Western Climate Initiative Partner programs
- Sectors Included:
  - Electricity generation, including imports (2012)
  - Large industrial sources (2012)
  - Commercial/residential natural gas use (2015)
  - Transportation fuels (2015)

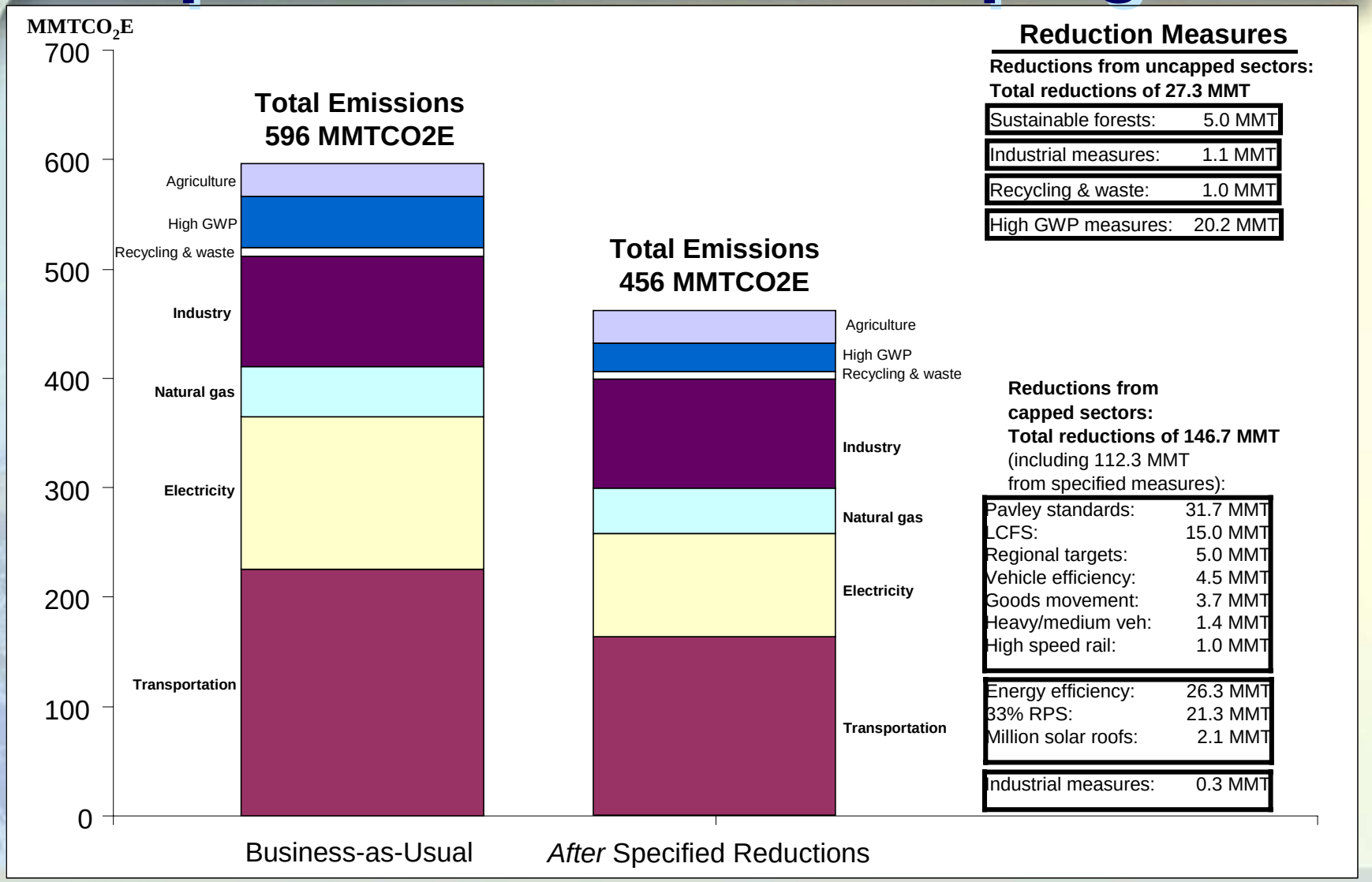
Scoping Plan Commitments

- Cap set in 2012, declining to 2020 target
- Three year compliance periods
- Minimum 10% auction; expect transition to 100% auction
- Offsets use limit: up to 49% of required emissions reductions
- Use complementary measures to reduce market barriers, spur innovation, and distribute costs more equitably
- Remaining reductions (35 mmtCO2e) achieved through cap-and-trade program

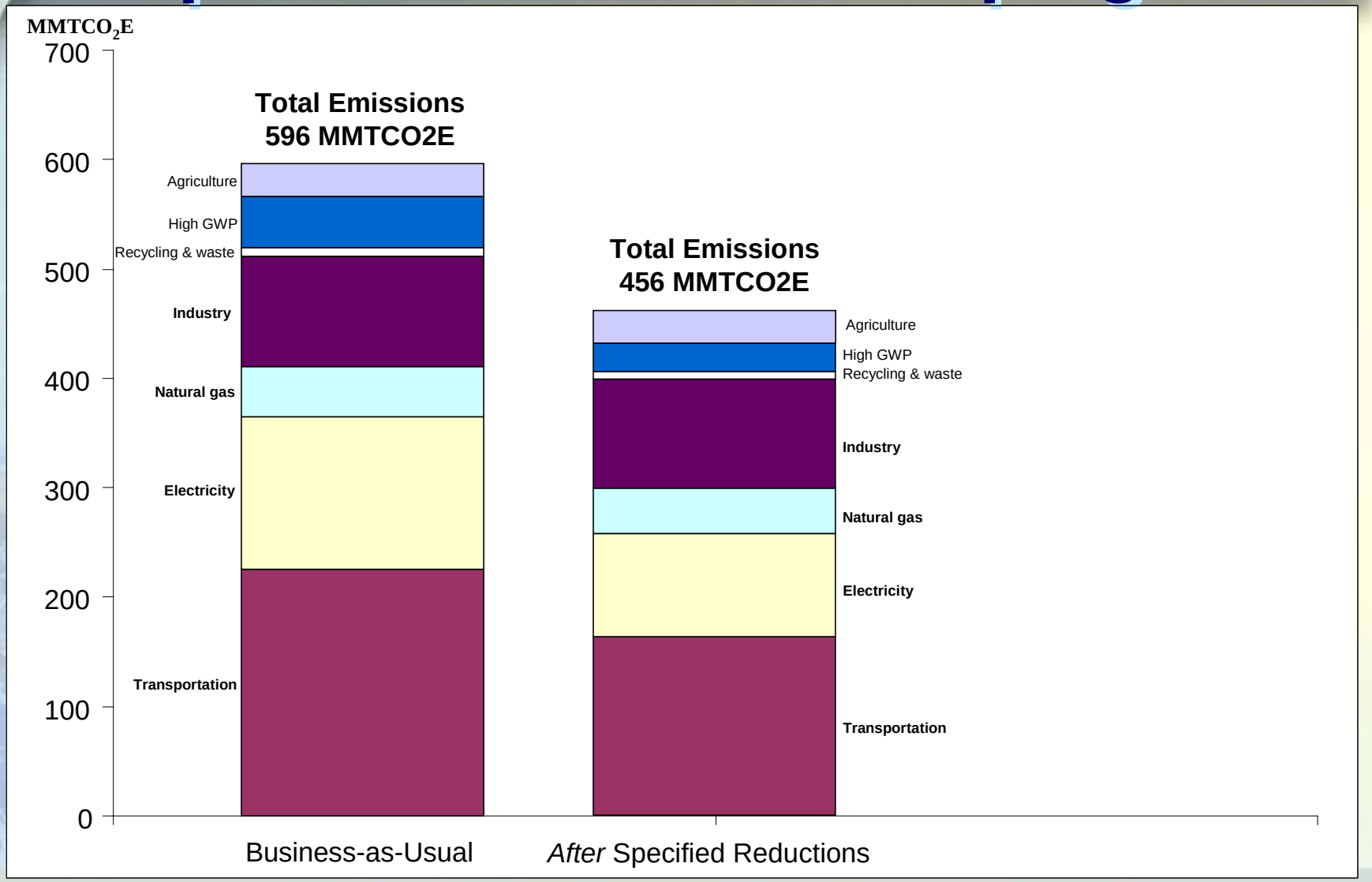
Board Direction on Cap-and-Trade Rule Development

- Program to complement health-based air quality programs and EJ policies
- Seek input from experts on public health, allowance distribution and use, revenue distribution, and economic analysis
- Consider effects of the program on the California economy and public health

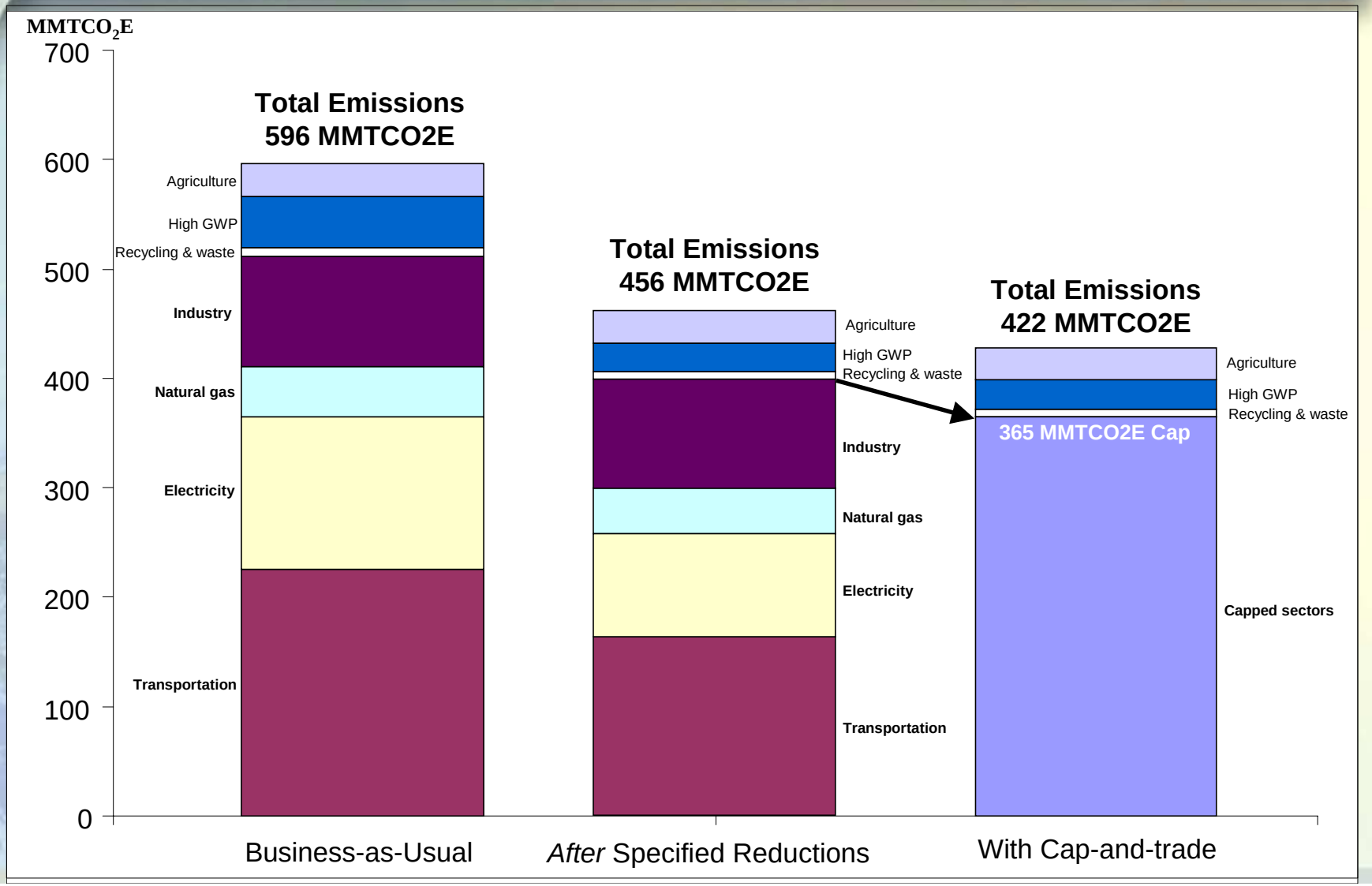
California 2020 GHG Emissions and Adopted Measures in Scoping Plan



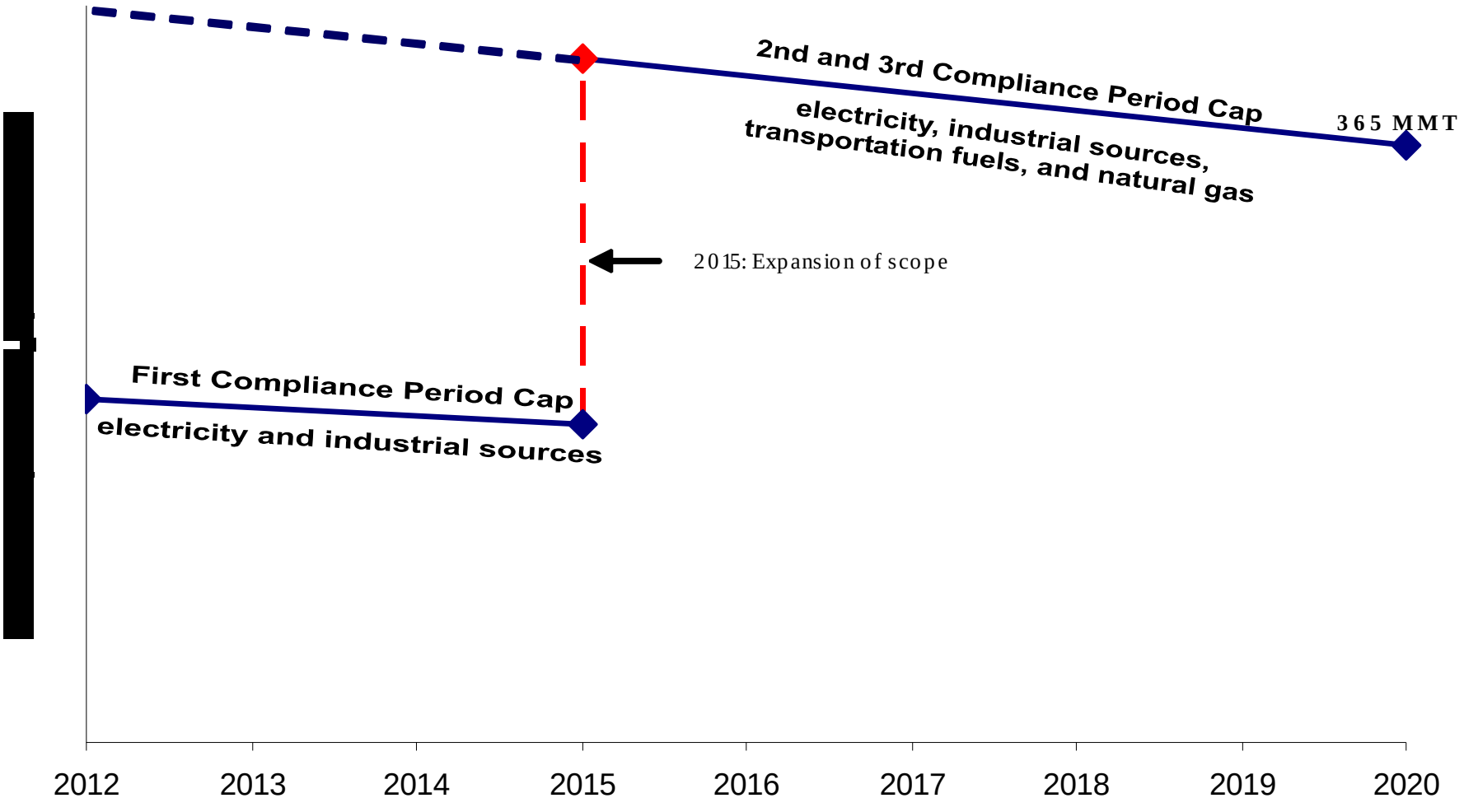
California 2020 GHG Emissions and Adopted Measures in Scoping Plan



California 2020 GHG Emissions and Recommended Reduction Measures



The California Cap



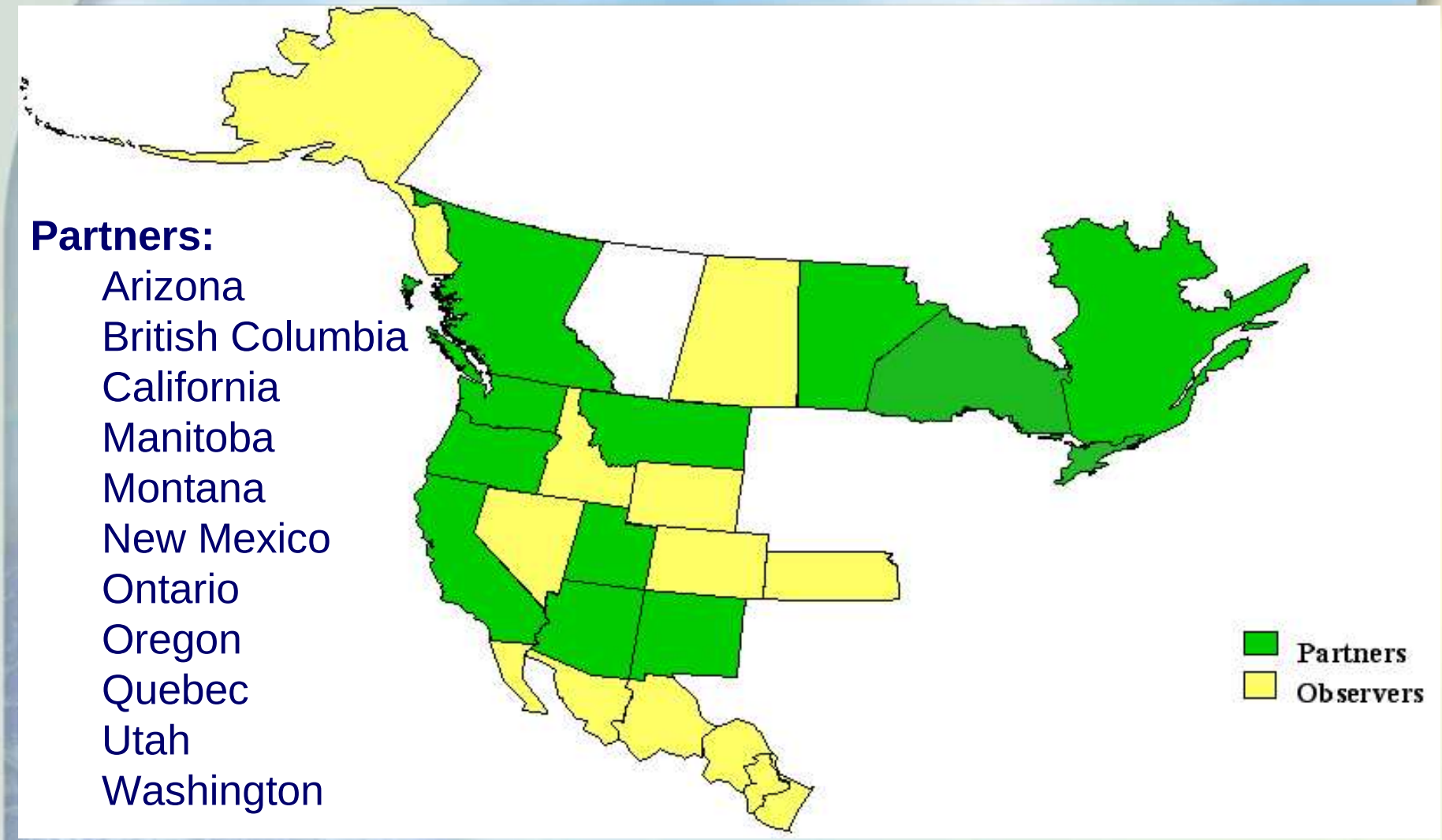
Principles Guiding Cap-and-Trade Regulation

- Minimize costs and maximize total benefits
- Minimize leakage and administrative burden
- Complement existing air programs to reduce emissions, exposure and risk
- Consider direct, indirect, and cumulative emissions, including localized impacts
- Do not disproportionately impact low-income communities

State Agency Coordination

- Cross-cutting issues
  - Offsets (Resources, Forestry)
  - Industry (Caltrans)
  - Transportation Fuels (CEC)
  - Energy (PUC and CEC)
- Electricity/Natural Gas
  - Work with CEC/CPUC on Joint Proceedings recommendations
  - Utilize expertise of Commissions on energy related issues

Western Climate Initiative



WCI Benefits to California

- Regional approach has potential to double emission reductions over a CA-only approach
- Regional harmonization reduces potential for emissions “leakage” and supports jobs retention
- Broader carbon market increases opportunities for low-cost greenhouse gas reductions
- Increased leverage on Federal climate policy development

Linking to a Regional Program

- Each partner jurisdiction adopts and implements its own program, with consistency among WCI partner programs
- Trading across jurisdictional lines authorized through administrative agreements among partner jurisdictions
- One auction design and coordinated auctions

Linking to a Regional Program (cont'd.)

- Consistent rulemaking provisions, including
  - Offset protocols and criteria for use
  - Reporting protocols and thresholds
- Address potential competitiveness issues in allocation formula

Interaction with Federal Activity

- Develop recommendations on policy issues that can influence national legislation and regulatory development
- Promote strong state involvement in developing federal climate policies and regulations
- Invite participation by U.S. EPA officials and other federal lead agencies
- Promote federal actions, funding opportunities and incentives for activities that support achieving California cap in 2020

Cap-and-Trade: Key Rulemaking Provisions

- Scope and Threshold
- Setting the Cap
- Allowance Distribution
- Auction Revenue Distribution
- Offsets

Cap-and-Trade: Key Rulemaking Provisions (cont'd)

- Reporting
- Market Operations and Oversight (including enforcement)
- Other Administrative Requirements
  - Examples:
    - Linking with WCI Jurisdiction programs
    - Provisions for rule revisions
    - New program entrants or changes in threshold eligibility

Public Participation Process

- Technical Working Groups
  - Purpose: clarify and define specific issues within each major rule sub-division (design element) with aim on finding good approaches to thorny issues
- Expert input on broad policy issues
  - Purpose: discuss and seek expert advice on issues related to economic impacts, public health, allowance distribution and revenue use, etc.

Public Participation Process (cont'd).

- Public Workshops
  - Regular broad-based public meetings to inform the public and key stakeholders on the status of rule development

Issues: Scope and Threshold

- Threshold for source eligibility within a sector
- Potential for inclusion of new sectors

Issues: Cap Setting

- Set cap levels for 2012 and 2015
- Rate of decline between milestone years
- Accounting for electricity imports in setting the cap
- Effect of weather and economic variability on cap setting

Issues: Allowance Distribution

- Transitioning over time to 100% auction
- Guiding principles for allowance distribution
- Economic, environmental, and social impacts of different allocation strategies
  - Including emissions and jobs leakage potential
- Allowance set-asides and criteria for use
- Coordination with WCI

Issues: Auction Revenue Distribution

- Uses of allowance value
- Oversight of directed expenditures

Issues: Offsets

- Criteria for offset protocols
  - Definitions: real, additional, quantifiable, verifiable, permanent, and enforceable
  - Conditions for approval, e.g., temporal, geographic, percentage changes over time, harmonization with regional system, etc.
- Potential supply of offsets within and outside California

Issues: Offsets (cont'd.)

- Procedures for review and adoption of project types and protocols for offset credits issued by WCI jurisdictions
- Tools to identify co-benefits in approval of offset projects
- Crediting period and start date for issuing offsets

Issues: Reporting

- Point of regulation for transportation fuels and natural gas for commercial/residential uses
- Quantification methods for new sectors
- Working definition of biomass (including sustainability guidelines and a method to assess carbon neutrality)
- Comparability of reporting requirements among WCI jurisdictions

Issues: Market Operations and Oversight

- Compliance quantification and verification
- Enforcement
- Regional auction design in concert with WCI
- Prevention of potential market manipulation to ensure system integrity

Issues: Market Operations and Oversight (cont'd.)

- Trading rules, including possible restrictions on market participation
- Managing inter-jurisdictional WCI allowances
- Transparency in the trading process
- Design of allowance-tracking system (registry)

Issues: Program Equity

- Potential for increases in criteria and toxic pollutants, especially in disproportionately impacted communities
- Marginal cost of abatement
- Impacts of regional program on small business, jobs, and competitiveness
- California as net importer or exporter of allowances within the WCI region

Issues: Harmonization with Other Requirements

- Harmonizing complementary measures (e.g., LCFS, high GWP mitigation program, energy measures) with cap-and-trade system
- Harmonizing cap-and-trade with other State policies and requirements (including CEQA and SIPs)
- Complementarity of California requirements with those of WCI Partner jurisdictions

Cap & Trade Impact Analyses

- Parallel to rule development
- Analyses will include:
  - Environmental, including criteria pollutants and air toxics
  - Economic
  - Energy diversification
  - Public health
  - Localized impacts
  - Small business
  - Market operations

Team Leads for Cap & Trade Rulemaking

Sam Wade, Mary Jane Coombs	Cap setting and allowance distribution
Ray Olsson	Market operations and oversight
Brieanne Aguila	Offsets
Claudia Orlando	Electricity
Karen Khamou	Transportation
Manpreet Mattu	Reporting Energy efficiency
Bruce Tuter, Mihoyo Fuji	Industrial sectors
Mihoyo Fuji, Claudia Orlando	Natural gas for residential and commercial
Mihoyo Fuji	Marginal abatement costs and competitiveness issues
Barbara Bamberger, Mihoyo Fuji, Jeannie Blakeslee, Judy Nottoli, Jerry Hart	Impact analyses (environmental, economic, localized, small business, public health)

Cap-and-Trade Rulemaking Timeline

Monthly	• Focused public meetings to get input on issue papers and draft rule provisions • Expert input on economic analyses, allocation distribution and revenue use, and public health
Quarterly	Public meetings on rule development progress and impact analyses
Semi-annually	Board updates to seek guidance from the Board
To be determined	WCI stakeholder meetings
As needed	Meetings with ARB standing committees (ETAAC, EJAC)

Cap-and-Trade Rulemaking Timeline (cont'd.)

2009	Regular public meetings on specific issues
November 2009 - ~April 2010	Prelim. draft rule provisions and white papers Public workshops on preliminary draft rule provisions, impact analyses
~December 2009	WCI early draft of essential elements for a cap-and-trade program
May/July 2010	Preliminary draft regulation released Public workshops

Cap-and-Trade Rulemaking Timeline (cont'd.)

September 2010	Release of staff report, draft regulation, and associated analyses, beginning of public comment period
November 2010	ARB hearing on cap-and-trade regulation
2011	Development of Final Statement of Reasons Distribution and/or auction of allowances
January 1, 2012	California/WCI cap-and-trade programs launch

Preliminary Schedule for Initial Issue-Focused Meetings

February 2009	• Reporting: California and WCI Interaction • Reporting: Biomass definitions and point of regulation for various uses
March 2009	• Early reduction program • Set asides • Essentials of market oversight and operations • Offsets compliance limits • Competitiveness issues
April 2009	• Defining the essential elements of offsets and offset system requirements • Attributing emissions to imported electricity • Evaluating potential impacts to vulnerable communities from cap and trade

Continuing Scoping Plan Economic Analysis

AB 32 Implementation of the Scoping Plan
January 29, 2008

Air Resources Board

Overview

- Board Resolution
- Direct Measure Development
- Analysis to Support the Design of the Cap and Trade Program
- Expert Input on Economic Analysis

Updated Analysis

Board Resolution 08-47 directs ARB staff to:

- By December 31, 2009 examine and report on:
  - Estimates of overall costs and savings and the cost-effectiveness of reductions, including appropriate inclusion of reductions in co-pollutants
  - Estimates of the timing of capital investments, annual expenditures to repay investments and resulting cost savings
  - Sensitivity of results to changes in key inputs, including energy price forecasts and estimates of measure costs and savings
  - Impacts on small businesses

Other Economic Considerations

Board Resolution 08-47 directs ARB staff to:

- Solicit input from experts to advise ARB on its continuing evaluation of the economic effects of implementing AB 32
- Consider the effects of the program on the overall California economy as staff develops the cap-and-trade regulations
- Consider the economic implications of different cap-and-trade program design options
- Coordinate the economic analysis of California's AB 32 program with the analysis conducted for the Western Climate Initiative.
- Work with other agencies, as appropriate, to ensure that California's energy demands are met, and that disproportionate geographic impacts on energy rates are avoided.

Complimentary Measure Development

ARB will continue to develop individual measures and to assess their associated costs and savings

- Updated analysis of measures include LCFS, Pavley regulations, energy efficiency and RPS
- Evaluate how changing economic conditions affect the projected measure costs and savings

Cap and Trade Program Design

As part of the cap-and-trade rulemaking, ARB should consider the economic implications of different cap-and-trade program design options, including:

- Various scenarios for allowance distribution (percent auction vs. free distribution, method of distribution);
- Various scenarios for the use of auction revenue;
- The initial cap level and the rate of decline of the cap over time;
- The potential supply of offsets within and outside California; and
- The economic and co-benefit effects of limits on the use of offsets

Continued Modeling Efforts

- Continue to utilize and refine in-house modeling tools such as E-DRAM and Energy2020
- Evaluate additional modeling tools and external modeling resources
- Assess results from analyses performed by other interested parties

Seek Expert Input

- Consult with experts on modeling tools and issues raised by the Board and stakeholders.
- Evaluate opportunities for supplemental analyses to be performed by ARB, other organizations in collaboration with ARB or independently
- Solicit expert input on economic analyses needed to inform the design of the cap-and-trade program

Economic Analysis Workplan

- February 2009 workshop to discuss economic analysis workplan
- Ongoing measure analysis
- Periodic public participatory meetings and workshops as part of cap-and-trade rulemaking
- Solicit expert input on Board and stakeholder concerns
- Board presentation of updated analysis in December 2009

Questions and Comments?

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

For More Information…

- ARB's Cap-and-Trade Web Site
  - http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm
- To stay informed, sign up for the Cap-and-Trade listserv:
  - http://www.arb.ca.gov/listserv/listserv_ind.php?listname=capandtrade
- Western Climate Initiative
  - http://www.westernclimateinitiative.org