Western EIM Regional Issues Forum Carbon Workshop

JUNE 18, 2019

Cap-and-Trade Program: Goals

- Ensure AB 32 and SB 32 GHG goals are realized through a limit on GHG emissions
- Provide compliance flexibility to achieve cost-effective reductions
- Carbon price signals to motivate long-term investment in cleaner fuel and energy efficiency
- Complement existing programs to reduce smog and air toxics
- Facilitate integration of regional, national, and international GHG reduction programs

Cap-and-Trade Program: Overview

- Program Coverage (~80% of State's GHG Emissions)
  - Facilities with emissions ≥25,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year
  - Importers of electricity
  - Emissions from the combustion of supplied fuels, including natural gas and transportation fuels
- Covered entities must acquire and surrender compliance instruments that match covered emissions at the end of each compliance period
  - Multi-year compliance periods account for annual variability
  - Allowance: a limited tradable authorization to emit up to one metric ton of CO_2e

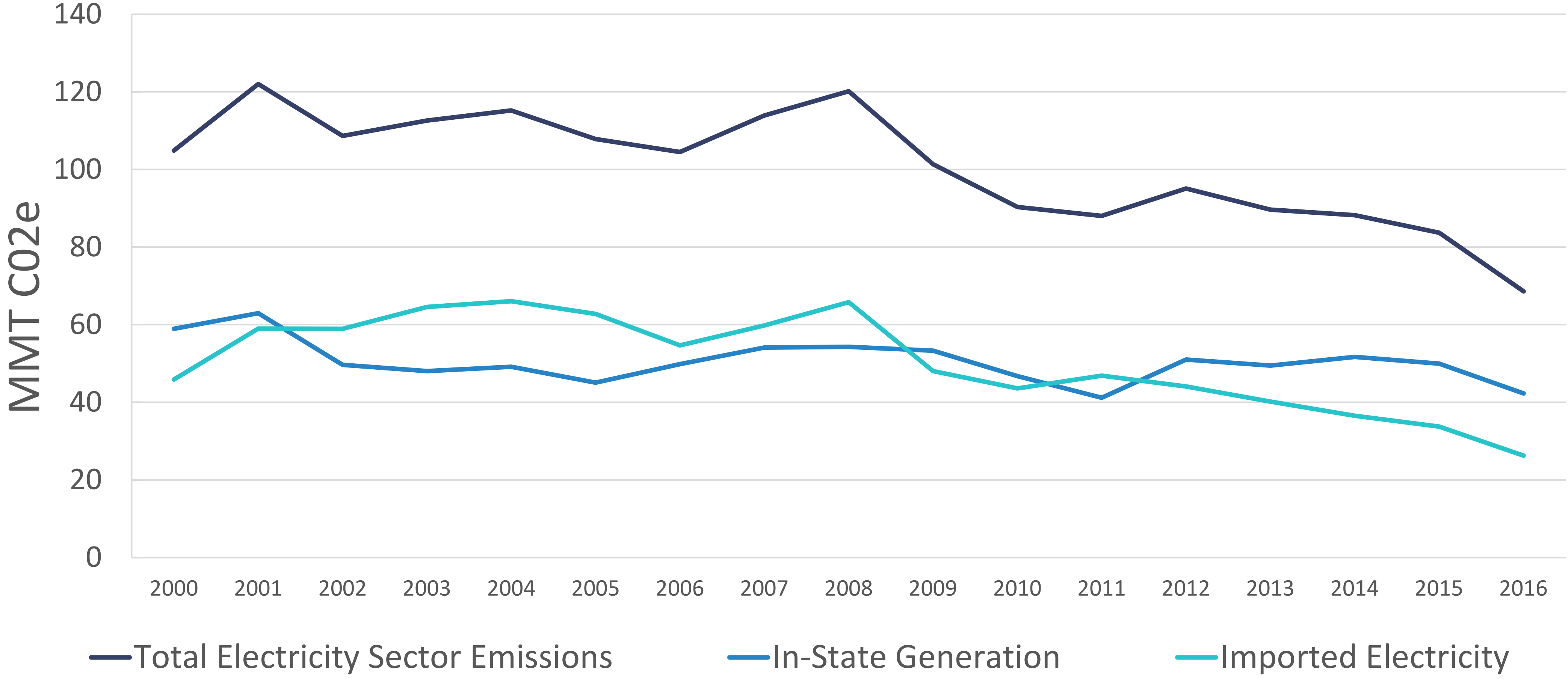
Accounting for Electricity Emissions

- Under AB 32, CARB must account for the total annual GHG emissions in the State
  - This includes all GHG emissions from the generation of electricity delivered to and consumed in California, whether that electricity is generated in-state or imported
    - California power plants must report facility-level emissions under the Regulation of the Mandatory Reporting of Greenhouse Gas Emissions (MRR)
    - Electricity importers must report imports based on physical delivery of electricity by source
    - Imported electricity is reported as either specified or unspecified

First Jurisdictional Deliverers of Electricity

- Electricity importers, or first jurisdictional deliverers (FJD), are the first responsible party for placing power onto the California grid
- The FJD approach is included in the design recommendations of the Western Climate Initiative (WCI) for imported electricity
- The FJD approach is designed to:
  - Address the interconnected nature of the electricity grid and the potential for emissions leakage
  - Apply to electricity consumed in California
  - Ensure like treatment of importers and in-state generators under the regulations
  - Maintain a consistent price on carbon
  - Reflect practical, administrative and regulatory constraints

California Electricity Sector GHG Emissions



Source: CARB, 2018 Edition California GHG Inventory

Energy Imbalance Market

EIM Emissions Reporting and Compliance

- The Program covers emissions from EIM electricity that serves California load
  - EIM importers (Participating Resource Scheduling Coordinators) can choose to offer out-of-state resources to California in the real-time market
  - EIM imports are the imports “deemed” to support California load by EIM
  - EIM imports are reported to MRR at their resource-specific emission rates
  - EIM importers hold the compliance obligation for covered emissions from EIM imports

Accounting for GHG emissions from EIM Electricity

- Beginning in 2016, CAISO and CARB identified that the design of EIM did not account for the full GHG emissions experienced by the atmosphere from electricity imported to California under EIM, and results in emissions leakage
- EIM Outstanding Emissions are the GHG emissions from electricity imported into California through EIM that are not reported by EIM importers
  - EIM Outstanding Emissions are calculated as total EIM imports at the default emission factor less emissions reported by EIM importers

Accounting for GHG emissions from EIM Electricity (cont.)

- In 2017, CARB implemented an interim “bridge” solution, retiring State-owned allowances equal to EIM Outstanding Emissions
  - CARB’s solution is only applicable to EIM and does not address the future expansion of the day-ahead market or regionalization
- In 2018, CAISO implemented a change that limits EIM deeming to bids above a resource’s base schedule
  - CAISO’s new deeming mechanism is expected to improve the accuracy of GHG emissions accounting, but not fully eliminate the leakage issue

EIM Purchaser Requirements

- In 2019, CARB implemented EIM Purchaser requirements, which place the responsibility for EIM Outstanding Emissions on entities purchasing EIM electricity
  - EIM Purchasers are California utilities that receive freely allocated allowances and purchase EIM energy to serve California load
  - Out-of-state EIM load and generation do not incur any obligation for EIM Outstanding Emissions
- EIM Purchasers collectively address EIM Outstanding Emissions through a deduction to their freely allocated allowances
  - Outstanding Emissions are apportioned to EIM Purchasers on retail sales share basis
  - Ensures the environmental integrity of the Cap-and-Trade Program

Looking Ahead

- CARB will continue to track emerging electricity market issues
- CARB will continue collaboration with CAISO on EIM and the day-ahead market
  - Expansion of the day-ahead market and regionalization will require different approaches and additional coordination
- CARB continues to engage with jurisdictions on potential policy alignment and linkages

Thank You