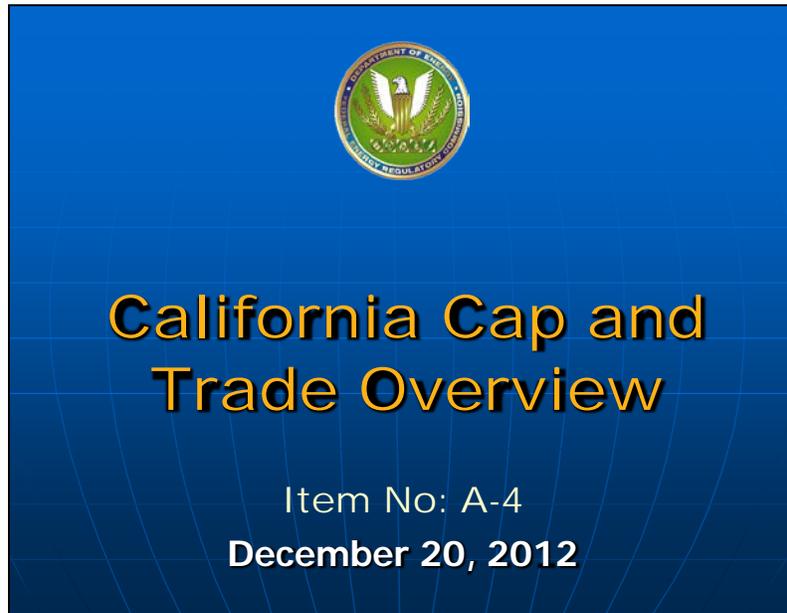


Slide 1



Good morning Mr. Chairman and Commissioners.

California begins enforcement of its cap and trade program in January 2013. We have been monitoring the development of this program for its potential implications for Western wholesale power markets. This presentation focuses on describing the program and looks at elements that may affect power markets.



Cap and Trade

- **Assembly Bill 32 (California's Global Warming Solutions Act)**
 - Reduce GHG emissions to 1990 levels by 2020; further reductions after that
 - Mandatory reporting and verification
- **Cap and Trade rulemaking**
 - California Air Resources Board (CARB)
 - Declining annual emission caps on greenhouse gases

California's Air Resources Board, or CARB, has primary responsibility for implementing Assembly Bill 32. Its regulations are aimed at reducing emissions of greenhouse gases - known in carbon equivalents - to 1990 levels by 2020. CARB has set caps on the annual amount of emissions each year, which decline until 2020. One aspect of California's program to achieve these emission reductions is its cap and trade program.

A blue rectangular box with a grid pattern and a globe-like background. The title 'Market Participants' is at the top in yellow. Below it are three main bullet points in white, each with sub-bullets. The sub-bullets for 'Covered Sectors' are in yellow. The sub-bullets for 'Covered Entities (CE)' are in white. The sub-bullets for 'Electric Sector' are in white.

Market Participants

- **Covered Sectors**
 - **2013:** Electric, energy-intensive manufacturing, petroleum
 - **2015:** Transportation fuels, residential and commercial natural gas consumption
- **Covered Entities (CE)**
 - **Mandatory:** Facilities/entities in covered sectors \geq 25,000 MTCO₂e
 - **Non-mandatory:** e.g. traders
- **Electric Sector: power generated or imported**
 - Excludes wheel-throughs
 - CAISO seeks to not be a covered entity

Compliance with cap and trade is phased in, with the electric industry and energy-intensive manufacturing beginning in 2013. Other sectors, including transportation fuels, and natural gas consumption by residential and commercial sectors begins in 2015.

Entities that emit 25,000 Metric Tons of Carbon Dioxide Equivalents (MTCO₂e) or more must comply with these rules. They are known as covered entities. Other entities may participate in the program - traders, for example.

For the electric sector, the program addresses all power consumed in California, encompassing both power generated in the state as well as power imported into California.

Compliance Instruments

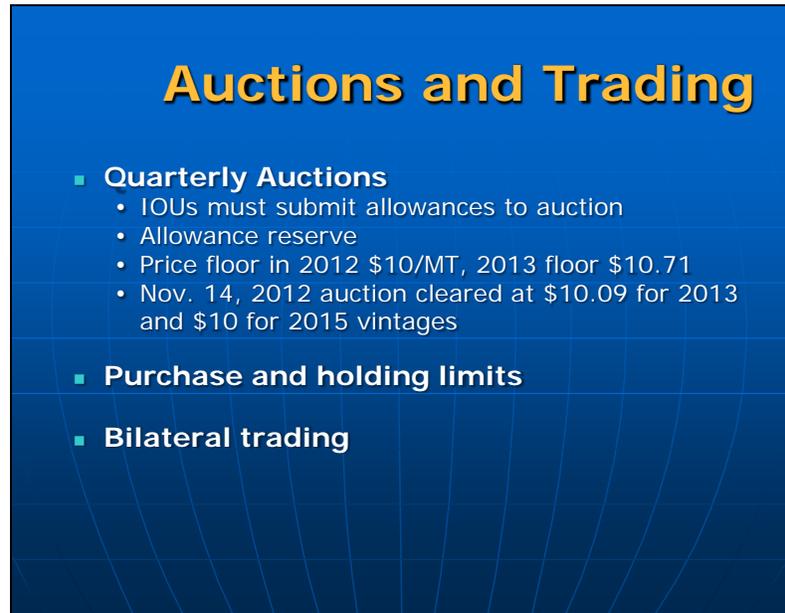
- **Allowances: tradable authorization to emit one MTCO_{2e}**
 - Allocations to electric IOUs and covered industry sectors
 - Vintages
- **Offsets: for up to 8% of a CE's emissions**
- **Acquisition and surrender of *compliance Instruments***
 - Three year compliance interval
 - Penalties for non-compliance

To comply, covered entities must surrender compliance instruments, such as allowances, equal to their emissions. Allowances are tradable and each allowance authorizes the holder to emit one metric ton of CO₂ equivalents. The power sector and some other industry sectors get allocations of allowances. Utilities are required to use these to benefit their ratepayers.

Allowances are to be issued by vintage year. Allowances are currently available for vintage years 2013 and 2015. CARB tracks ownership of allowances through its Compliance Instrument Tracking System.

Covered entities may also use offsets, which are also compliance instruments, for up to 8% of their emissions. Offsets result from activities that reduce greenhouse gases. Planting trees, for example, can store carbon and offset emissions from power plants or other sources. These need to come from programs approved by CARB, which has up to 8 years to verify the offsets.

The program also entails penalties to be imposed by CARB for failure to submit sufficient compliance instruments to cover emissions, as well as for under-reporting emissions, data falsification, resource shuffling, manipulative trading, and for other violations of the program's rules.



Auctions and Trading

- **Quarterly Auctions**
 - IOUs must submit allowances to auction
 - Allowance reserve
 - Price floor in 2012 \$10/MT, 2013 floor \$10.71
 - Nov. 14, 2012 auction cleared at \$10.09 for 2013 and \$10 for 2015 vintages
- **Purchase and holding limits**
- **Bilateral trading**

CARB will auction allowances quarterly. The first was held November 14, 2012. In that auction, all 2013 vintages were sold at the market clearing price of \$10.09, just above the administratively set floor price of \$10. However, only 14 percent of the 2015 vintages sold and they cleared at the at the \$10 floor price. The floor escalates 5 percent each year plus an annual adjustment for inflation; the floor for 2013 is \$10.71. The program does not include a ceiling on allowance prices; instead, CARB plans to hold some allowances in reserve so it can increase supply if it deems prices to have risen too high. Investor-owned utilities are required to submit the allowances they are allocated to the auction.

To reduce the opportunity for market participants to drive up the price of allowances, CARB has implemented limits on how many allowances an entity may purchase in a given auction, as well as how many the entity may hold overall.

Allowances may also trade bilaterally, along with derivatives based on allowances. These derivatives, which have been trading on the Intercontinental Exchange and through brokerage houses, include forward contracts and options.

Generation and Imports

- Generation inside CA assessed based on emissions
- Imports
 - “Specified”
 - Asset controlling suppliers (ACS)
 - “Unspecified” default emission rate: 0.428 MT/MWh
 - Exchange-traded standardized contracts do not specify source

Generation sourced in California will have to comply based on their emissions. However, roughly a third of California’s power comes from imports. Compliance for imports resides with the entity that first delivers the power into California. If the source of the import is specified, the importer will have to submit compliance instruments to cover that source’s emissions. If the source is not specified, the importer will be able to use a default rate of 0.428 metric tons per megawatt-hour. For sources that come from a known system, the importer may use a system-wide emission rate, if it has been approved by CARB.



Next Steps

- **Potential MOU between FERC and CARB?**
- **Potential CARB staff visit to FERC**
- **Continued monitoring for effects on CA and other Western power markets**
 - Outreach to market participants
 - Analyses of price and supply effects
 - Monitoring CARB regulations and board meetings

FERC staff in a number of offices have been actively monitoring the development of the cap and trade program. Staff has participated in conferences on the issues arising from cap and trade. We also have reached out to market participants, CARB's market monitor, Monitoring Analytics to members of CARB's Emission Market Assessment Committee, and to CAISO to better understand the program and its implications. Staff is also examining how cap and trade may affect the power market run by CAISO, including its implications for prices and supply. As the cap and trade program unfolds, staff will monitor its effects on power prices, CAISO, and other Western power markets. Some of the areas we will focus on include bilateral allowance prices and trading, allowance derivative trading, auction results, imports into California, and power prices in California and around the West.

Staff has met with CARB and is pursuing a Memorandum of Understanding to allow for information sharing between CARB and FERC staff. Further, CARB staff will be at FERC in early 2013 to discuss areas of mutual interest, including monitoring and surveillance.

Slide 8



California Cap and Trade Overview

Item No: A-3
December 20, 2012