



California's Cap-and-Trade Program

February 29, 2016

What Is the Cap-and-Trade Program?

- One of a suite of measures to reduce greenhouse gas (GHG) emissions under AB 32
- The economy-wide cap limits annual GHG emissions from all regulated sources, and it declines each year
- Covered entities must purchase and surrender allowances and offsets to match their emissions at the end of each compliance period
 - This places a price on emissions and incentivize reductions
- Participants are allowed to trade State-issued GHG emissions allowances
 - Trading provides flexibility and reduces compliance costs

Definitions

- ▣ **Covered entity:** A regulated party under the Cap-and-Trade Regulation
- ▣ **Compliance instrument:** An allowance or offset credit that is issued by the State and equal to one metric ton of GHG emissions
 - ▣ **Offset credit:** A compliance instrument derived from GHG emissions reductions that take place outside of the Program
- ▣ **Annual cap:** The limit on GHG emissions from all covered sources in a given year, which is set by the number of allowances issued each year
- ▣ **Leakage:** Emissions increases outside California that result from activities moving out of California due to policies within California

Cap-and-Trade Program Goals

- ▣ Reduce GHG emissions by putting a firm limit on total emissions from all covered sources
- ▣ Allow the price of carbon to motivate the most cost-effective reductions and spur innovation
- ▣ Complement existing programs to reduce smog and air toxics
- ▣ Ensure AB 32 emissions goals for GHGs are realized through a strict limit
- ▣ Facilitate integration of regional, national, and international GHG reduction programs

Who Is Covered by the Program?

- Stationary sources with GHG emissions at or above 25,000 metric tons of CO₂e per year, imports of electricity, and supplied fuels:
 - Large industrial sources
 - Electricity generation
 - Electricity imports
 - Transportation fuels
 - Natural gas and propane
- These sources cover 85% of California's GHG emissions

Requirements of Covered Entities

- ▣ Register with the California Air Resources Board (ARB)
- ▣ Report GHG emissions annually
- ▣ Surrender allowances and offsets to match emissions at the end of each compliance period
 - ▣ Reductions are program-wide, not facility specific
- ▣ Comply with recordkeeping, market rules, verification, and other requirements in the regulation

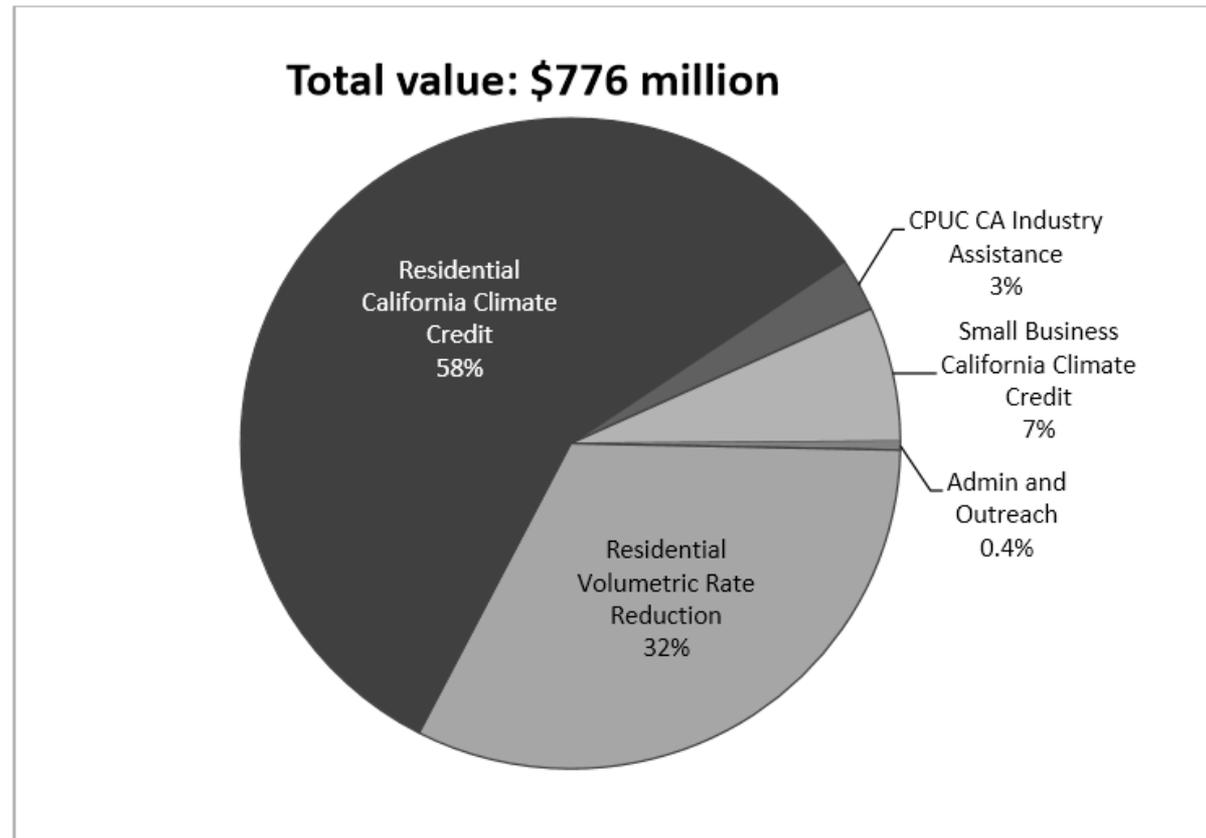
How Are Allowances Distributed?

- Free allocation to industrial producers to provide transition assistance and to minimize emissions leakage
 - Started at 90% of the average emissions intensity for most industrial sectors and declines each year with the cap
- Free allocation to electric utilities and natural gas suppliers on behalf of ratepayers
- Allocation to a 'reserve' to contain prices
- Remaining allowances are sold at auction, with proceeds going to the State to be appropriated during the budget process
 - In 2015, about 45% of allowances were distributed via auction

Free Allocation to Electric Utilities and Natural Gas Suppliers

- Allocation is provided for ratepayer benefit and in support of emissions reductions
- Some residential households received a ~\$15 to \$143 climate credit twice a year on their electricity bills

Figure 1. IOU expected use of vintage 2013 allocated allowance value.



Market Integrity

- ▣ Purchase and holding limits are established to prevent market manipulation
- ▣ Corporate associations must be disclosed so that ARB may monitor potential collusion
- ▣ All traders must register in the Cap-and-Trade tracking system
- ▣ The tracking system provides a chain of custody for allowances and offsets
- ▣ Financial penalties and account restrictions deter violations

Market Oversight and Enforcement

- ▣ ARB coordinates oversight with the U.S. Commodity Futures Trading Commission (CFTC) and Federal Energy Regulatory Commission (FERC)
 - ▣ Sharing market data and analysis
 - ▣ Training
 - ▣ Legal coordination
- ▣ ARB coordinates enforcement with California Department of Justice

Offset Credits

- Offset credits are tradable compliance instruments that represent verified GHG emissions reductions or removal enhancements made in sectors and sources outside of the Cap-and-Trade Program
- Offset credits are issued directly by ARB or a linked jurisdiction and must result from Board-adopted compliance offset protocols
- Reductions must meet AB 32 criteria:
 - Real, permanent, quantifiable, verifiable, enforceable, and additional (beyond regulation or what would otherwise occur)
- Offsets may satisfy up to 8% of a covered entity's compliance obligation

ARB Compliance Offset Protocols

- ▣ Six ARB compliance offset protocols have been adopted:
 - ▣ U.S. forests
 - ▣ Urban forests
 - ▣ Livestock digesters
 - ▣ Ozone depleting substances
 - ▣ Mine methane capture
 - ▣ Rice cultivation

Potential Amendments for Sector Based Offset Crediting

- Considering jurisdictional Reducing Emissions from Deforestation and Forest Degradation (REDD) Programs
 - Addresses significant portion of global emissions (roughly 11%-14%)
 - Tropical forest sector is a heavily studied sector
 - California program already includes domestic forestry offsets
 - Multiple co-benefits: biodiversity, water management, and soil conservation

Western Climate Initiative

- The Western Climate Initiative (WCI) is a collaboration among Western States and Canadian Provinces seeking to reduce GHG emissions in a cost-effective manner
 - California, Québec, British Columbia, Ontario, and Manitoba
- A nonprofit corporation entitled Western Climate Initiative, Inc. was established in November 2011
 - WCI, Inc. provides technical and administrative services to support Program implementation

Linkage

- ▣ California's Program is linked with Québec's cap-and-trade system
- ▣ In 2015, Ontario announced intentions to develop a cap-and-trade program with a launch in 2017, and they are proposing to link their program with California/Québec's linked programs
- ▣ In late 2015, Manitoba announced intentions to develop a cap-and-trade program that could link with California/Québec's linked programs

General Program Statistics

- ▣ ~450 entities are covered by the Program
- ▣ ~260 voluntary entities are in the Program
- ▣ ~760 million compliance instruments are held in private accounts
- ▣ Approximate market value of compliance instruments in private accounts is \$9.67 billion

Major Milestones

Date	Event
November 2012	First auction
January 2013	First compliance period began
January 2014	Program linked with Québec
November 2014	First annual compliance event
November 2014	First joint auction with Québec
November 2015	First compliance period compliance event

Auction Update

- ▣ State holds quarterly allowance auctions and there have been 14 auctions to date
 - ▣ ~ \$3.527 billion placed into the Greenhouse Gas Reduction Fund (proceeds from Feb. 2016 auction not yet included)
- ▣ State-owned allowances for sale in 2016: ~171 million
- ▣ 2016 auction floor price: \$12.73
- ▣ February 2016 auction settlement prices:
 - ▣ Current vintage = \$12.73
 - ▣ 2019 vintage = \$12.73

Additional Information

California Cap-and-Trade Program webpage:

<http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>