

# Joint Cap-and-Trade Program Workshop

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JUNE 14, 2023

*Environnement,  
Lutte contre  
les changements  
climatiques,  
Faune et Parcs*

Québec 



# Workshop Logistics

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- Workshop materials and comment docket available at Cap-and-Trade Meetings and Workshops webpage
  - <https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cap-and-trade-meetings-workshops>
- Written feedback may be submitted to comment docket open June 14-July 7, 2023 11:59 p.m. Pacific Time.
- Public comment after presentation
  1. Use the “Raise Hand” function in the toolbar at bottom of your screen
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# Agenda

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- California-Québec linked carbon market
- California climate policy and Scoping Plan Update
- Cap-and-Trade Program overview and public process for updates
- Joint efforts to review and update the linked carbon markets
- Other key topics for the California Cap-and-Trade Program
- Public comments

# Program Linkage & Western Climate Initiative, Inc.

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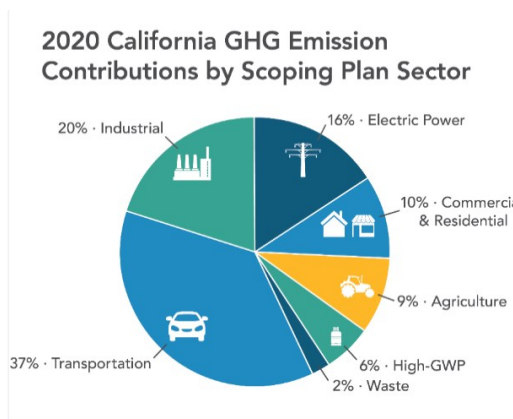
- California and Québec linked carbon markets since 2014
  - 35 joint allowance auctions
  - Consistent market rules
  - Mutual recognition of allowances and offsets issued by the other jurisdiction
- Western Climate Initiative, Inc. (WCI Inc.)
  - Non-profit
  - Provides carbon market administration services
  - Single registry system
  - Single auction platform
  - Contract for services to monitor the joint market

# California's Climate Policy Framework



## GHG Targets & Goals

**Legislation & Executive Orders:** Total GHGs (AB 32/SB 32/AB 1279) or sector targets (SB 1383/SB 100), etc.



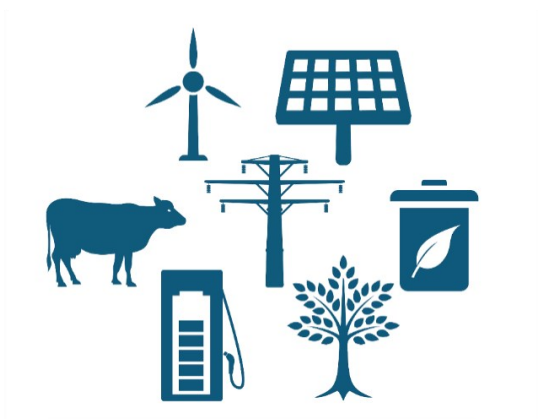
## Scoping Plan

Actionable plan across all sectors



## Action

**Regulations & Incentives:** Advanced Clean Cars, climate change investments, etc.

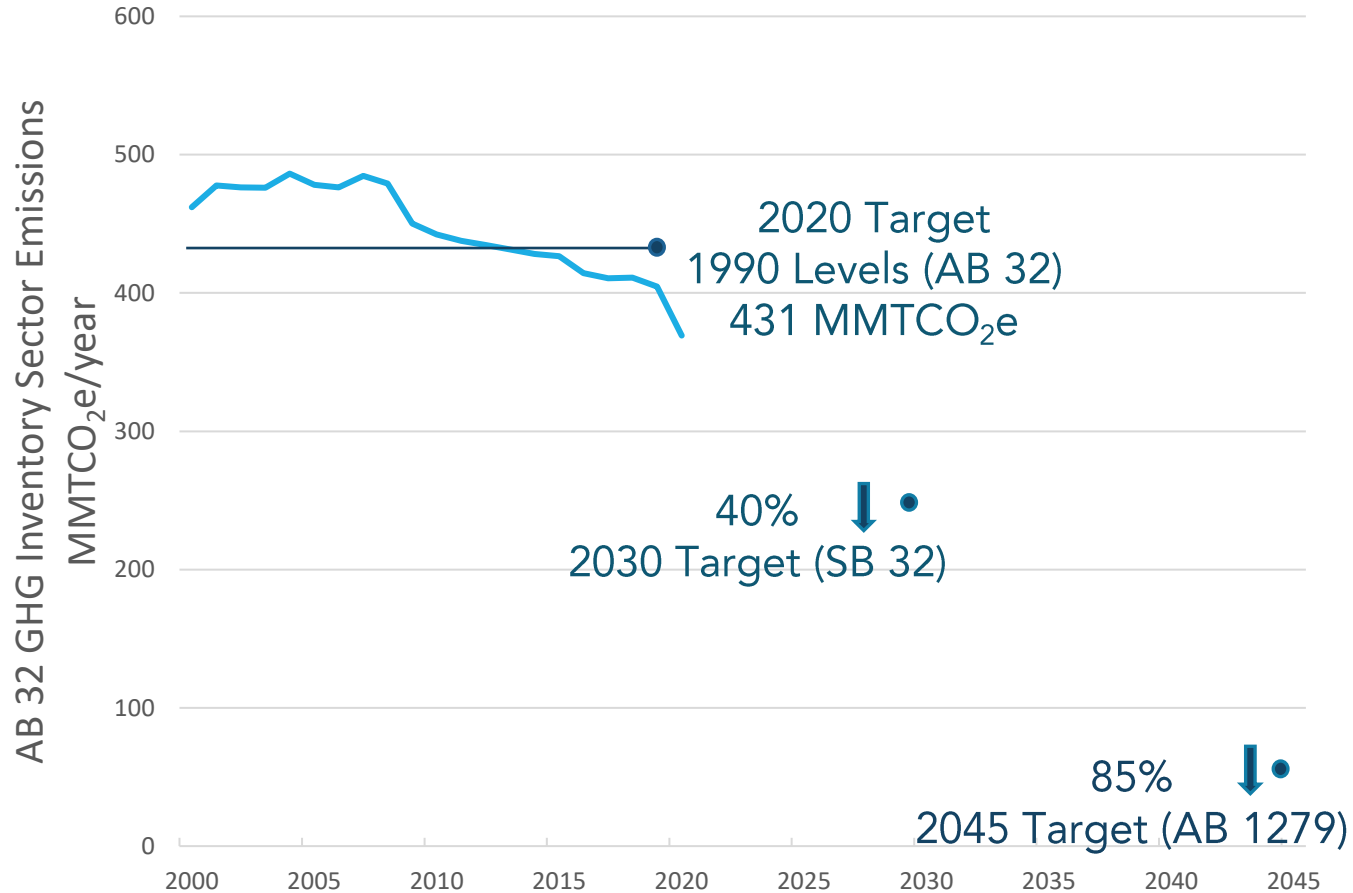


## Projects

**Examples:** Zero-emission trucks, energy infrastructure and renewables, compost facilities, digesters, etc.

# GHG Emissions Reduction Targets

*Achieved AB 32 target in 2014*



ACHIEVING  
**CARBON**  
NEUTRALITY  
BY **2045**

GHGs included in statute: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), nitrogen trifluoride (NF<sub>3</sub>).

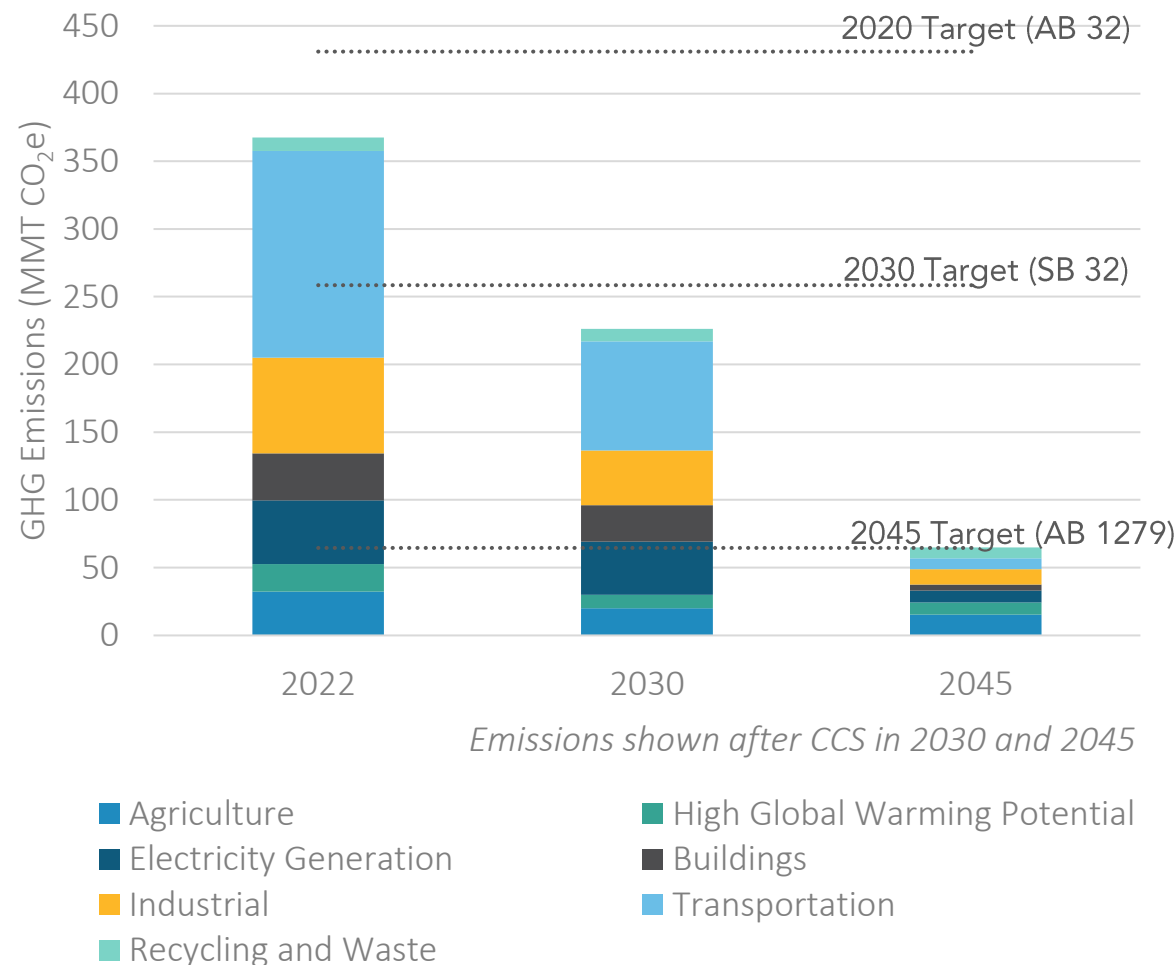
# Science-Driven Climate Action

## 2030 Target: 48% reduction below 1990

- Increased ambition from SB 32 40% target
- Ambitious pace of building clean energy infrastructure and clean technology deployment
- Begin deployment of carbon capture and removal
- Leverage State and federal funding

## 2045 Target: 85% reduction below 1990

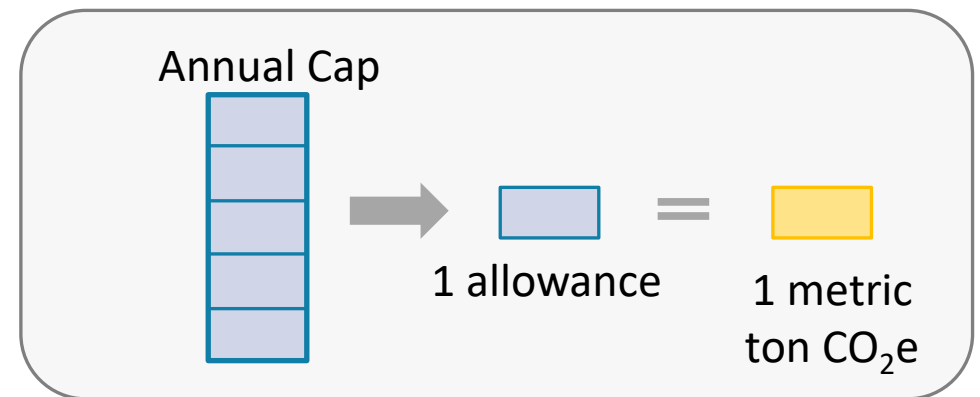
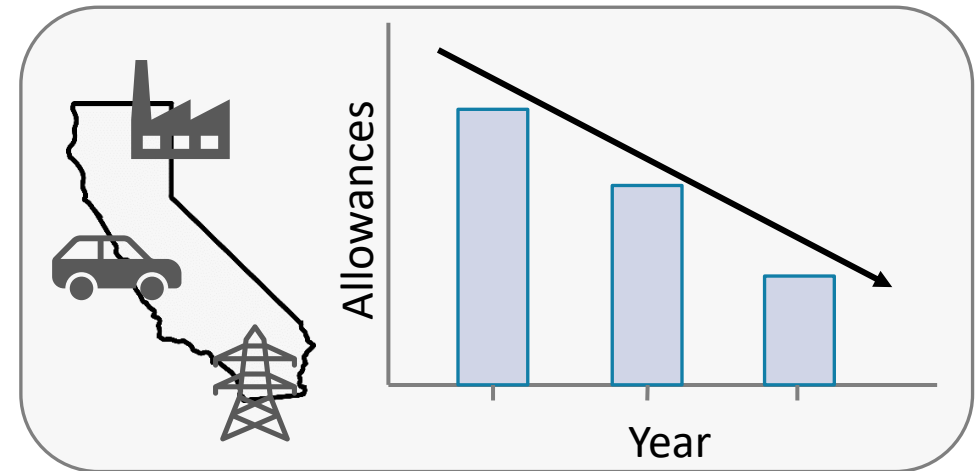
- Some emissions remain in AB 32 sectors
- Some reductions achieved by carbon capture and sequestration
- Need carbon dioxide removal to compensate for residual emissions to achieve carbon neutrality



# Cap-and-Trade Overview

*Key element of California's portfolio approach to achieve the State's GHG emissions reduction targets*

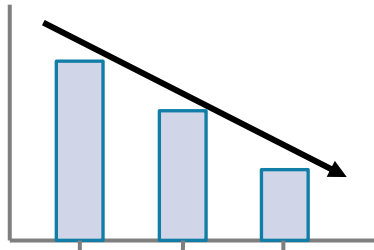
- Economy-wide, declining cap on annual GHG emissions
- Cap set by allowances issued each year according to California's GHG goals
- Compliance obligations
  - Covered entities must surrender compliance instruments equal to emissions
  - One allowance = one offset credit = permit to emit one MTCO<sub>2</sub>e
  - Compliance instruments are tradable



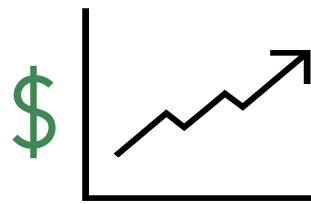


# Cap-and-Trade Overview, cont.

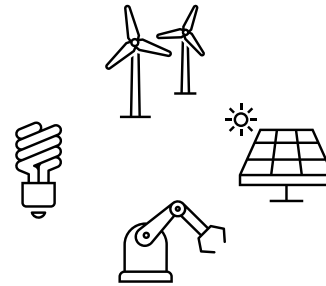
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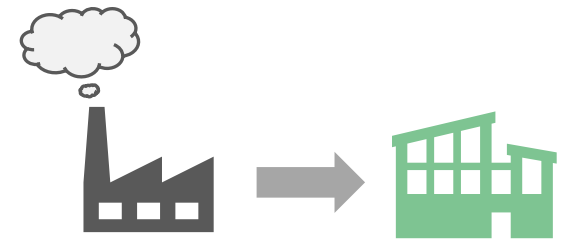
Declining Caps



Increasing Price  
Signal



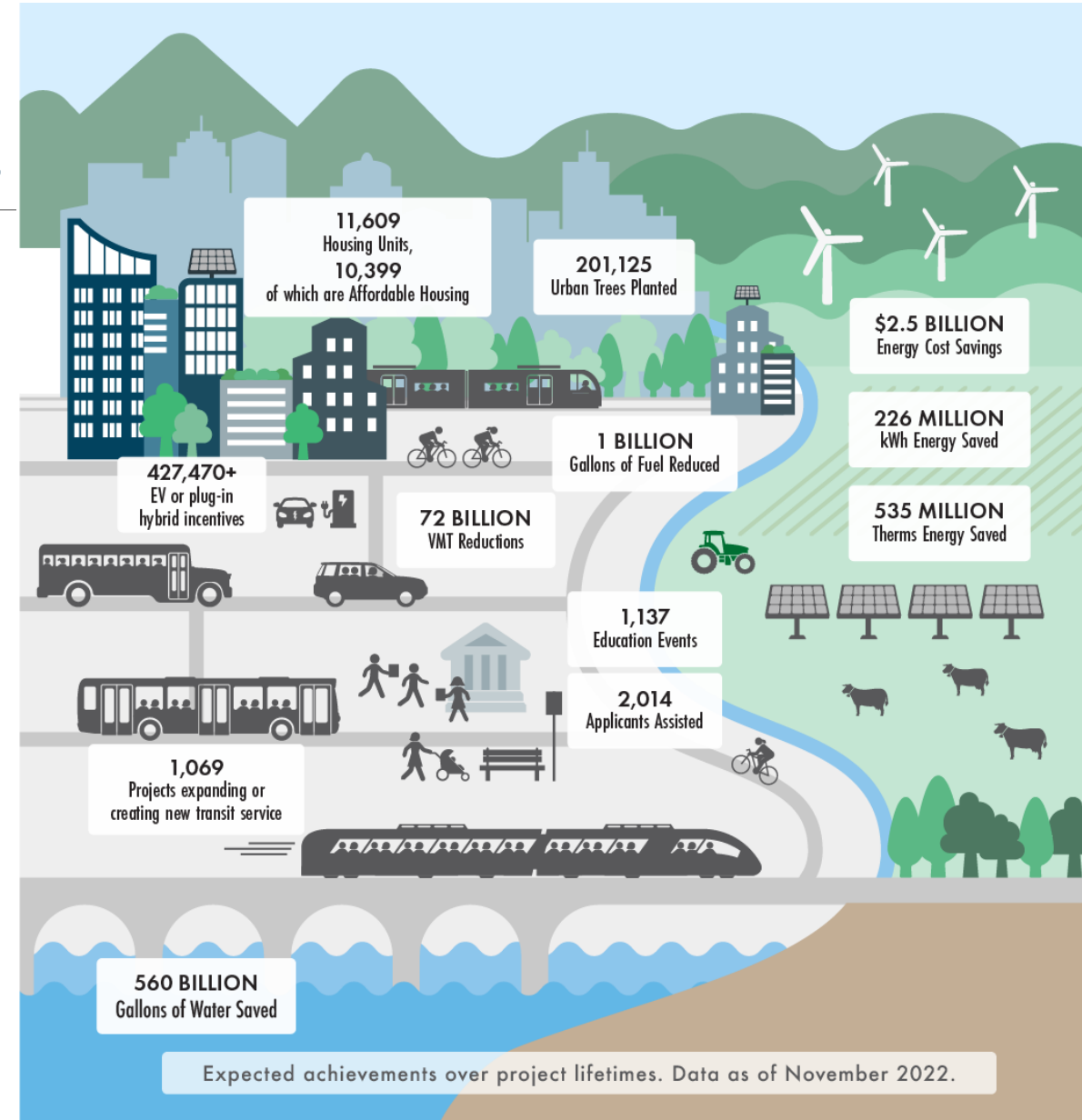
Targets Lowest  
Cost Reduction  
First



Long-Term Price  
Signal for Clean  
Technology  
Investments

# State Allowances Fund California Climate Investments

- Auction of State allowances fund California Climate Investments and AB 617 implementation
- \$23B provided; \$9B implemented
- Over 70% implemented benefiting priority populations



# 2022 Scoping Plan & Cap-and-Trade Program

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## 2030

- Support ambitious GHG emissions reduction goal

## Scalability

- Wide range of economic and energy conditions
- Role impacted by success of other policies

## Design Goals

- Steady increasing price
- Minimize leakage
- Cost-effective
- Technologically feasible
- Avoid energy price spikes

## Air Quality

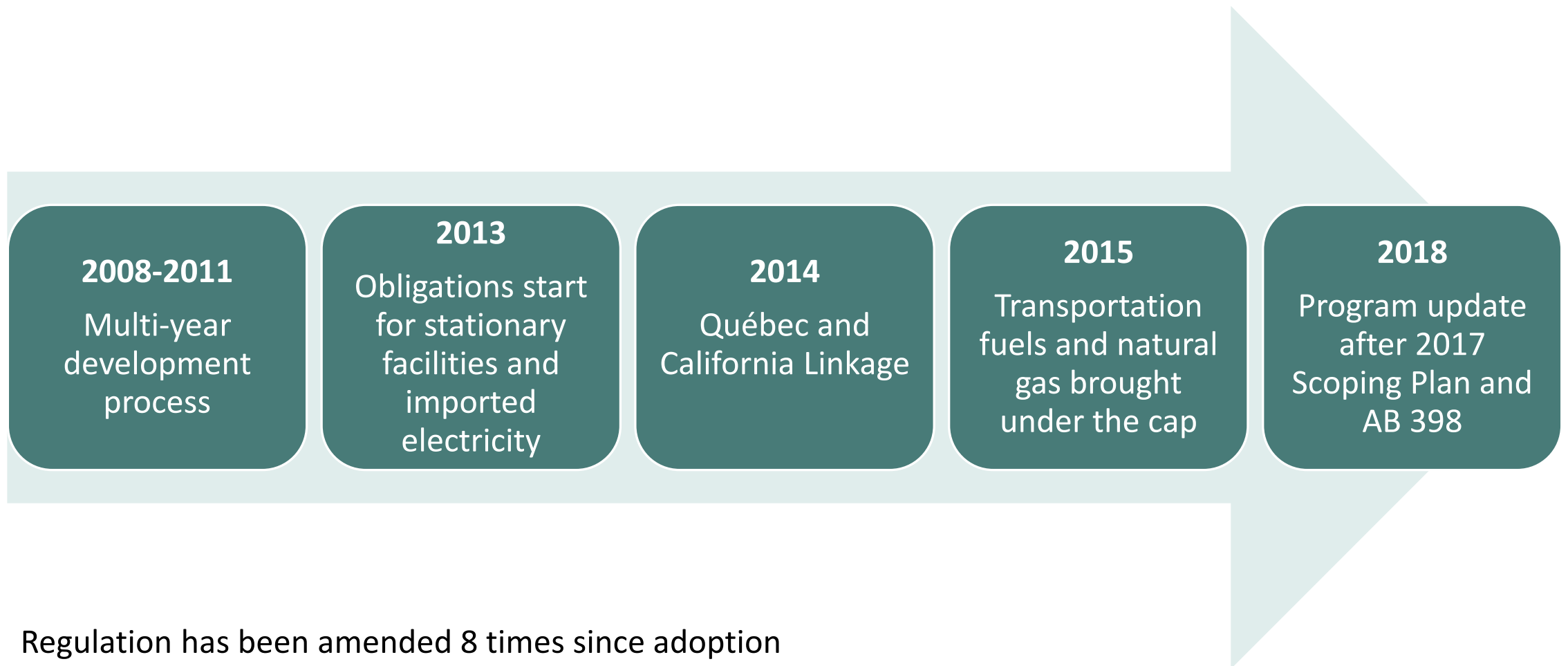
- Support State Implementation Plan
- Avoid exacerbating existing air quality disparity

# Cap-and-Trade Program Updates

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# History of Cap-and-Trade Program

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# Context for New Cap-and-Trade Program Updates

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- 2022 Scoping Plan Update approved by the Board December 2022
  - Assesses progress toward achieving State climate targets
  - Incorporates targets and actions needed to achieve State's GHG targets
  - Provides economy-wide data to inform review of the Cap-and-Trade Program
- Updated AB 32 GHG Emission Inventory
  - Latest published GHG Emission Inventory included adjustments to align sector emissions with third-party verified data
- Consider updates to reflect implementation needs, new legislation, Executive Orders, and policies

# Process For Updating the Cap-and-Trade Program

## Context for Cap-and-Trade Program Updates

- Dec 2022 – Board Approved 2022 Scoping Plan Update
- Updated AB 32 GHG Emission Inventory
- Implementation needs and ongoing experience

New EO, Legislative direction, and Board direction to lay out path to carbon neutrality

## Cap-and-Trade Pre-Rulemaking

- Informal Workshops
  - Evaluate Cap-and-Trade and economy-wide trends
  - Identify regulatory concepts
  - Discuss alignment with latest Scoping Plan
  - Solicit public input

Public workshops to develop concepts aligned with State goals

## Cap-and-Trade Formal Rulemaking

- Issue Notice of Proposed Rulemaking
  - Draft regulatory text
  - Initial Statement of Reasons
  - Environmental and economic analyses
- 45-day comment period
- Potential additional amendments and 15-day comment period
- Adoption by CARB at Board Hearing
- Final Statement of Reasons with response to comments
- Office of Administrative Law review
- Implementation begins

Formal process with specific timelines  
\* By law, CARB has one year to submit rulemaking record once ISOR is published

# Statutorily Required Analyses

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- Environmental Analysis
  - Potentially significant adverse impacts from reasonably foreseeable actions
  - Feasible mitigation measures to reduce/avoid significant impacts
  - Alternatives analyses
  - Meets requirements of the California Environmental Quality Act (CEQA)
- Standardized Regulatory Impact Assessment
  - Economic impact of proposed major regulations
  - May not represent final staff proposal
  - Analyses of the costs, benefits, and macroeconomic impacts of the proposed regulation and two additional regulatory alternatives
  - Reviewed by California Department of Finance



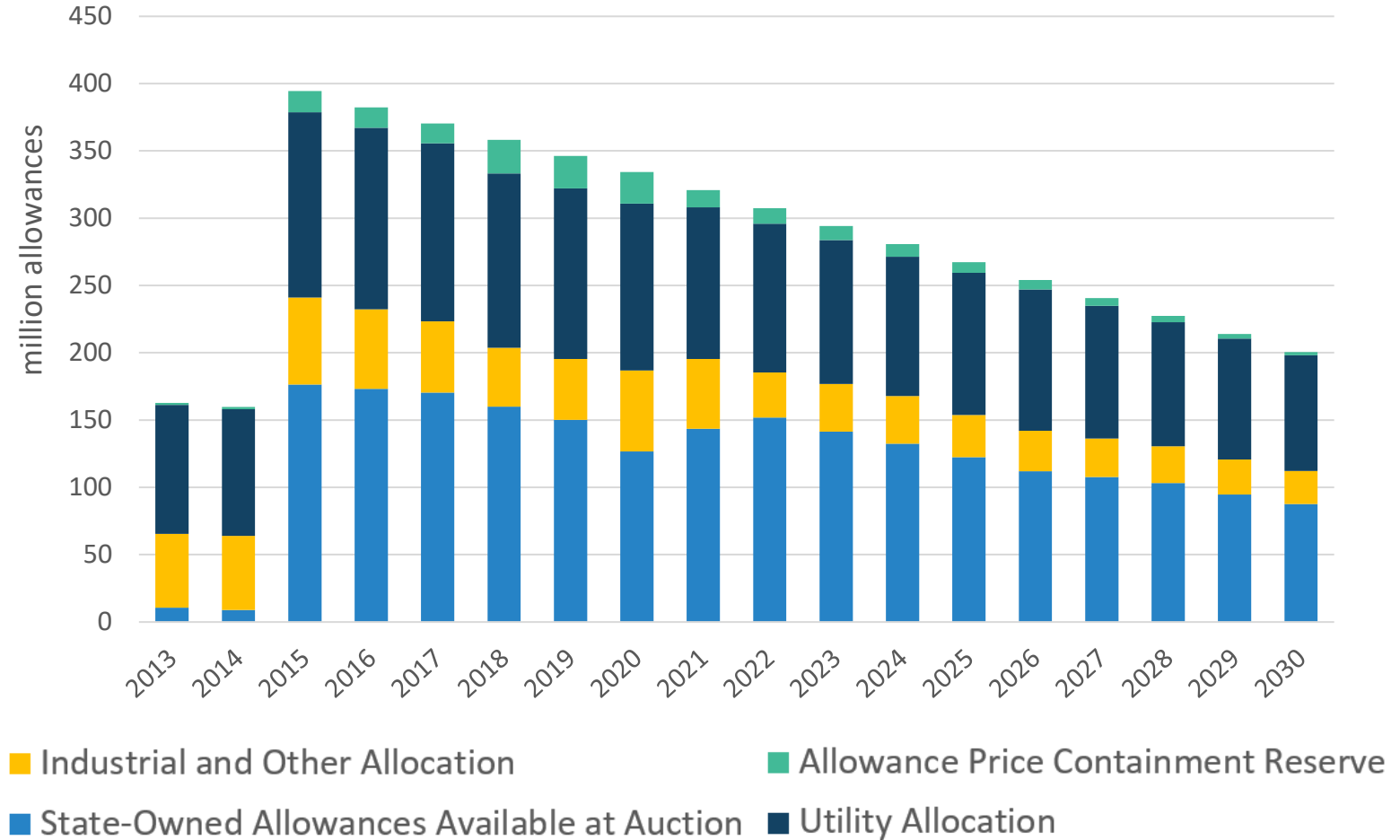
# Joint Québec-California Efforts

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- Allowance cost evaluations
- Market rules
- Cost containment
- Carbon dioxide removal and sequestration

# Cap-and-Trade Allowance Budget Overview

- ~4% annual decrease 2020-2030
- Allowances distributed to market
  - Direct allocation
  - Sale at auction
- Allowance Price Containment Reserve for cost containment



# Allowance Cost Evaluations

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- Two coordinated modeling efforts
  - Québec and California will independently model allowance supply and demand scenarios for the joint market
  - Every model has uncertainty, structural differences, and different inputs
  - Allows for cross-checks and validation of directional outputs
- Provide allowance cost estimates
- Evaluate potential impact of banked 5% of overall allowances in context of design scenarios

# Allowance Budget Scenarios

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*Important to consider a range of scenarios for 2030 and evaluate the program through 2045*

40% by 2030

with and without 85% out to 2045

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- Adjusted AB 32 GHG Emission Inventory warrants a review of existing caps

48% by 2030

with and without 85% out to 2045

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- 2022 Scoping Plan Update highlighted accelerated 2030 target

55% by 2030

with and without 85% out to 2045

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- With 7 years until 2030, this represents an upper bound

# Market Rules

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*Any changes need to be coordinated across linked jurisdictions*

- Holding limits
  - Any adjustment to allowance budgets may prompt a need to evaluate the holding limit calculation
- Cost containment
  - Any adjustment to allowance budgets may prompt a need to evaluate Allowance Price Containment Reserve and price ceiling levels
- Corporate association triggers
  - Are current disclosure requirements and corporate association triggers sufficient to protect against market manipulation?

# Supporting Carbon Dioxide Removal and Sequestration Projects

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- Scoping Plan modeling emphasizes need for
  - Carbon capture and sequestration (CCS) at emitting sources
  - Carbon dioxide removal (CDR) from atmosphere
- Governor's executive letter (2022)
  - Targets of 20 MMTCO<sub>2</sub>e in 2030, 100 MMTCO<sub>2</sub>e in 2045
- SB 905 (2022)
  - CARB must create the Carbon Capture, Removal, Utilization, and Storage Program
  - Prohibits CCS or CDR from facilitating enhanced oil recovery
- CCS and CDR not currently recognized in Cap-and-Trade Regulation
- Staff evaluating opportunities to align treatment of CCS and CDR within Cap-and-Trade with Scoping Plan and executive and legislative direction

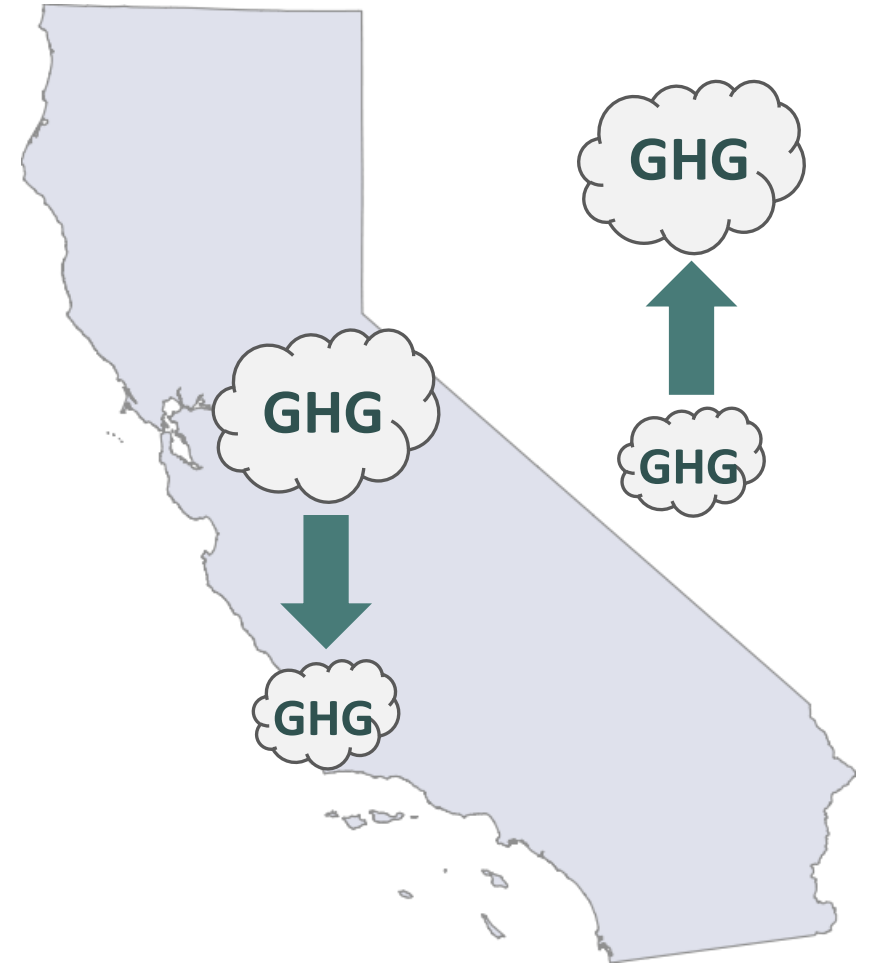
# Additional Cap-and-Trade Program Updates

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# Emissions Leakage Background

*Cap-and-Trade is designed to minimize the potential for emissions leakage*

- AB 32: mandate to minimize leakage
- AB 398: set assistance factors for industrial leakage protection at 100% through 2030
- Program design
  - Industrial allocation incentivizes maintaining efficient production in-state
  - Consistent carbon price signal for all electricity used to serve California
  - Prohibitions against shuffling imported electricity resources to lower compliance obligations





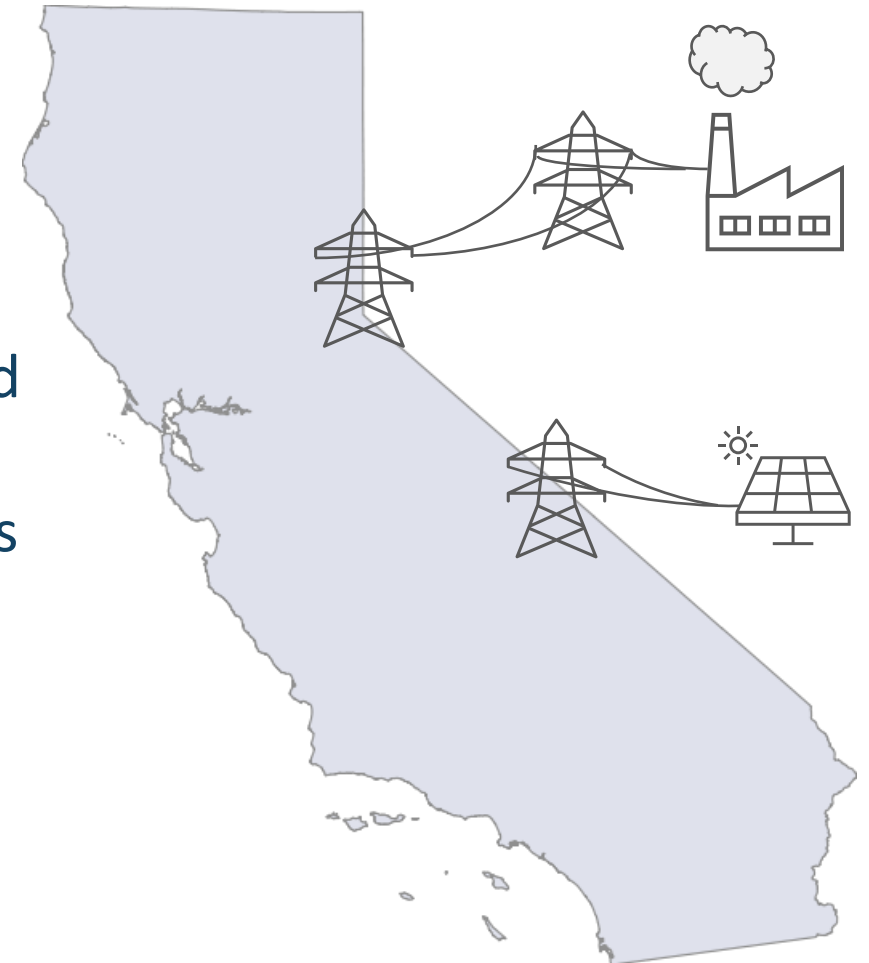
# Emissions Leakage Studies

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- Industrial sector leakage study
  - Assess potential emissions leakage in the context of the Scoping Plan and evaluate potential measures to reduce leakage risk
  - Inform AB 398 leakage evaluation due to Legislature by end of 2025
- Electricity sector leakage study
  - Retrospective study
  - Estimate magnitude and extent of any leakage over time
  - Determine key drivers of any identified leakage and evaluate potential measures to reduce leakage risk
- The outcomes of these studies may inform future Program updates

# Coordination on Electricity Markets

- Compliance obligations on electricity importers, or first jurisdictional deliverers (FJD)
- Cap-and-Trade design addresses leakage in CAISO's real-time Energy Imbalance Market (EIM)
- CAISO adopted proposal for an Extended Day-Ahead Market (EDAM) in February 2023
- CARB is evaluating EDAM and implications to CARB's programs
- CARB's GHG emissions accounting for electricity imports must meet State and federal requirements and support implementation of CARB's programs



# Offset Program Background

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*The Compliance Offsets Program is an important cost-containment element within the Cap-and-Trade Program.*

- AB 32: reductions must be real, permanent, quantifiable, verifiable, enforceable, and additional
- AB 398: from 2021 onwards, no more than one half of the quantitative usage limit may be from projects that do not provide direct environmental benefits in the state
- Program design:
  - Offsets for reduction of GHG emissions pursuant to six Board-approved Protocols
  - 2021-2025 limit: 4 percent of compliance obligation
  - 2026-2030 limit: 6 percent of compliance obligation

# Offset Protocols Updates

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*Offset Protocols are regularly reviewed and updated utilizing best available science.*

- Livestock Protocol (2014)
- Ozone Depleting Substances Protocol (2014)
- U.S. Forest Protocol (2015)
  - Initial workshop held in November 2022, and staff evaluations are ongoing
  - Contract to assess forest wildfire and disease risks will inform needed updates, which may be on a timeline that trails the Cap-and-Trade rulemaking process

# Other Potential California-Specific Topics

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*CARB is considering other potential updates reflective of implementation needs and the State's climate policies.*

Topics may include but are not limited to:

- Exemptions for biogenic CO<sub>2</sub> emissions
- Mechanisms to further incentivize industrial decarbonization
- Review of ratepayer and low-income protections provided by utility allocation
- Corresponding changes in the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (MRR)



## Québec-specific Topics

- Publication of market data
- Reporting GHG transfers between facilities
- Most recent GHGs Global warming potential (GWP)
- Compliance frequency and partial compliance

# Offset credits, carbon sequestration and new green technologies in a market context

- Limit on the use of offset credits for compliance
- The role of offset credits for the post-2030 period in the context of carbon neutrality for 2050
- Treatment of biofuels and carbon capture and sequestration in a carbon market context

Québec Cap-and-Trade System Program Page

[https://www.environnement.gouv.qc.ca/changementsclimatiques/marche-carbone\\_en.asp](https://www.environnement.gouv.qc.ca/changementsclimatiques/marche-carbone_en.asp)

# Questions and Feedback Session

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- Public Comment Instructions



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# Next Steps

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