Workshop to Continue Informal Discussion on Potential Amendments to the Cap-and-Trade Regulation

June 21, 2018

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Workshop Materials and Submitting Comments

- Presentation and other materials: http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm
- Presentation webcast: https://video.calepa.ca.gov/
- Written comments may be submitted until 5:00 pm Pacific time on Thursday, July 5, 2018, at this site: http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm
- During this workshop, e-mail questions to: coastalrm@calepa.ca.gov

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Agenda

- Introduction and Approach
- Program Topics
  - Allowance Allocation
  - Cost Containment Design Features
  - EIM Outstanding Emissions and Bankruptcy Mechanisms
  - Unsold Allowances
  - Post-2020 Cap Setting
  - Direct Environmental Benefits and Offsets
  - Energy Imbalance Market
- Public Engagement and Next Steps
- CAISO EIM Presentation

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Introduction

- **This workshop continues the informal discussion of potential regulatory amendments. The slides are not part of a formal regulatory proposal.**
- Three prior informal workshops
- Today's focus: continue discussion of potential changes to the regulation, as presented in workshop materials, and review process and schedule
  - Materials reflect comments submitted to CARB; staff will continue to consider stakeholder comments going forward
  - Topics not in current workshop materials could be in future release and/or in formal 45-day proposal

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Approach to Current Rulemaking

- Continue market design for steady, predictable, increasing floor price, with a declining cap, to prompt investments and actions to achieve mid- and long-term GHG reductions
- Carbon price signal should conform to legislation and maintain integrity of the pre-2021 period of the Program
- Avoid penalizing covered entities in response to early action to reduce GHGs or investments in allowances
- Collaboration through Program linkage
- Maintain benefits of Program's market features:
  - Cost-effectiveness by realizing the lowest-cost reductions
  - Flexibility thru trading and multiyear compliance periods
  - Minimizing leakage

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Staff Thinking: Allowance Allocation - EDU and NG Supplier Uses of Allowance Value (1 of 2)

- Stakeholders requested clarification of allowable uses of auction proceeds and inclusion of some specific uses
- Regulation text is divided into separate sections for EDUs and NG suppliers and made more specific to each utility type
- Adds to the list of allowable uses: rooftop solar, shared renewables, grandfathered renewables directly delivered to California, demand response, reducing SF_6, and reducing fugitive methane
- Adds an “other” category of allowable uses where GHG emission reductions can be demonstrated
- Clarifies proceeds may not be used for shareholder dividends, employee bonuses, lobbying, or advocacy

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Staff Thinking: Allowance Allocation - EDU and NG Supplier Uses of Allowance Value (2 of 2)

- Clarifies how the ten-year limit for spending applies to allocated allowance proceeds received prior to October 2017: Those proceeds must be spent within ten years of the effective date of the requirement
- Adds detail to reporting requirements: Description of purpose of each use of allowance value, estimating GHG reductions, and itemizing administrative uses
- Request for specific proposals on:
  - Methods to quantify GHG reductions from use of allowance value
  - Role and oversight of using proceeds to purchase allowances
  - Methods to quantify transportation-related load growth emissions (quantifiable and verifiable to allocation standards)

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Staff Thinking: Allowance Allocation for New Entrants

- Proposed revisions add two general activities to Table 8-1:
  - "Nitrogenous Fertilizer Manufacturing" added to the sector "Nitrogenous Fertilizer Manufacturing" (NAICS code 325311)
  - "Lime Manufacturing" added to the sector "Lime Manufacturing" (NAICS code 327410)
- Accommodates potential new entrant facilities that operate in these sectors, but that do not conduct the activities currently included in Table 8-1 for these sectors

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Cost Containment Design Features

- CARB staff asked for stakeholder comments on various cost containment design features presented in February concept paper
  - Price ceiling range
  - Reserve tiers range (AB 398 "price containment points")
  - Distribution of allowances to price ceiling or tiers
    - 52.4M allowances allocated to post-2020 Reserve in 2016 amendments
    - 23M allowances that represent two percent of 2026-2030 budgets to reflect change in offset limits from 4% to 6%
  - Allowance banking
- The following slides summarize most recent stakeholder comments on these topics

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Stakeholder Comments: Cost Containment Design (1 of 2)

- Reserve sale mechanics:
  - RFF – integrate Reserve sales into quarterly auctions by allowing entities to place bids from Reserve at the auction rather than separate event
  - PG&E – Set Reserve purchase limits based on entities' preference to avoid high-cost instruments rather than gap in allowance holdings
  - SMUD – continue ability to borrow from future vintages but reduce pool to 5 percent of future allowance budgets
- Ceiling Price:
  - SMUD, SCPPA, WSPA and CLFP recommend focusing on viability of program should ceiling be reached
  - CLFP, PG&E, SoCalGas recommend alternate SCC estimates (2017 Scoping Plan values)

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Stakeholder Comments: Cost Containment Design (2 of 2)

- PG&E, SoCalGas, and P66 – 52.4M allowances allocated to cost containment should be allocated to new post-2020 reserve tiers rather than price ceiling
  - Allowances allocated as part of next rulemaking
  - Unsold allowances resulting from undersubscribed auctions (P66 recommends quicker re-introduction of unsold allowances to auction)
- Set reserve tier prices at 1/3 and 2/3 of price ceiling
  - Decreased total compliance cost
  - Quicker IEMAC review
  - IETA, PG&E, SoCalGas, SMUD, WSPA, P66

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Staff Thinking: Sales from the New Post-2020 Reserve

- Considerations on reserve tier prices
  - Staff continues to consider stakeholder comments
  - Price ceiling and AB 398 requirements; ensuring incentives for GHG reductions; Program stringency; linkage; cost-effectiveness
- Sales Mechanism
  - Retain existing quarterly Reserve sales process
  - Option: Limit purchases to compliance instruments necessary for the next compliance event
  - Option: Requiring an entity's holding account to be empty of compliance instruments valid for surrender before allowing entity to purchase
  - AB 398 requires allowances sold from the new post-2020 reserve to be non-tradable (Existing regulation places Reserve allowances in compliance account)

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Staff Thinking: Sales at the Price Ceiling

- Considerations on price ceiling
  - Staff continues to consider stakeholder comments
  - AB 398 requirements; ensuring incentives for GHG reductions; Program stringency; minimize leakage; cost-effectiveness
- Timing of Sale
  - After last Reserve sale before compliance event
  - Window of last resort right before compliance event
- Purchase Restrictions
  - Only California covered entities could participate
  - Limit to purchases to fulfill current compliance obligation
  - Placed in purchaser's compliance account
  - Cash payment over a fixed period (no bidding)
- Continued consideration of comments on types of reductions that could be made available at ceiling

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Staff Thinking: EIM Outstanding Emissions/Bankruptcy Mechanism

- Energy Imbalance Market (EIM) Outstanding Emissions
  - For 2017 emissions year, EIM Outstanding Emissions will be met by retiring unsold allowances
  - For 2018 emissions and some 2019 emissions, staff considering retiring future vintage allowances that have not already been allocated for other regulatory purposes
- Covered Entity Bankruptcy
  - Amendments to the Regulation that went into effect May 30, 2018 ensure that the responsibility to meet compliance obligations is transferred to new owners during an ownership change process
  - Staff considering amendment to enable retiring future vintage allowances that have not already been allocated for other regulatory purposes to cover any obligation that is unmet due to existing bankruptcies

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Staff Thinking: Unsold Allowances

- After 24 months, CARB will transfer unsold allowances to:
  - Current Reserve until December 31, 2020. Any allowances remaining in the Reserve as of that date will be placed into the price ceiling
  - Beginning January 1, 2021, any allowances that remain unsold after 24 months would be transferred to the new post-2020 Reserve. Staff still assessing stakeholder comments on the distribution of these allowances.
  - Retirement to cover EIM Outstanding Emissions – described in previous slide

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Stakeholder Comments: "Overallocation"

- Stakeholder comments reflect continued divergence on issue of "Overallocation"
  - Reduce or limit future allowance budgets or allowances held in private accounts to drive greater reductions
  - Current caps appropriate based on 24-month unsold provision, net allowance flows to linked partners, unknown future macroeconomic trends, and need to avoid penalizing early action and giving unclear signals for compliance strategies and emissions reduction investments
- One new suggestion to create upward steps in auction reserve price for portion of general auction supply rather than retire or place post-2020 allowances into Reserve
- Multiple stakeholders continue to maintain that banking rules should remain unchanged

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Cap-Setting (1 of 5)

- Cap Setting 2013 - 2020
  - CARB determined statewide limit for 2020 (1990 emissions) as part of 2008 Scoping Plan = 431MMTCO_2e*
  - Cap-and-Trade rulemaking process determined which sectors would be covered
  - 2020 cap set at 334.2MMTCO_2e - informed by top-down historical emissions and early facility-level reported emissions data from MRR on covered sectors

*431 MMTCO_2e using the 4th assessment GWPs

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Cap-Setting (2 of 5)

- Covered Emissions
  - Transportation, residential and commercial energy, electricity, industrial sectors
- Non-Covered Emissions
  - Agriculture, wastes, high global warming gases, fugitives in covered sectors
- Cap-and-Trade Program covered emissions ~77.5% of 2020 statewide GHG target
  - 2020 allowance budget 334.2 MMTCO_2e, statewide target 431MMTCO_2e
  - 334.2/431 = 77.5%

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Cap-Setting (3 of 5)

- Post-2020 Cap Setting
  - Utilize same 77.5% ratio relative to the 2030 target (258.6MMTCO_2e)
  - 2030 resulting cap equals 200.5MMTCO_2e
- 2016 Rulemaking added post-2020 Caps
  - Linear decline from existing 2020 cap to 2030 cap
  - Scoping Plan modeling estimated 2020 emissions would be lower than the 2020 target
  - Staff adjusted the post-2020 caps to recognize 2020 emissions modeled to be less than 2020 target

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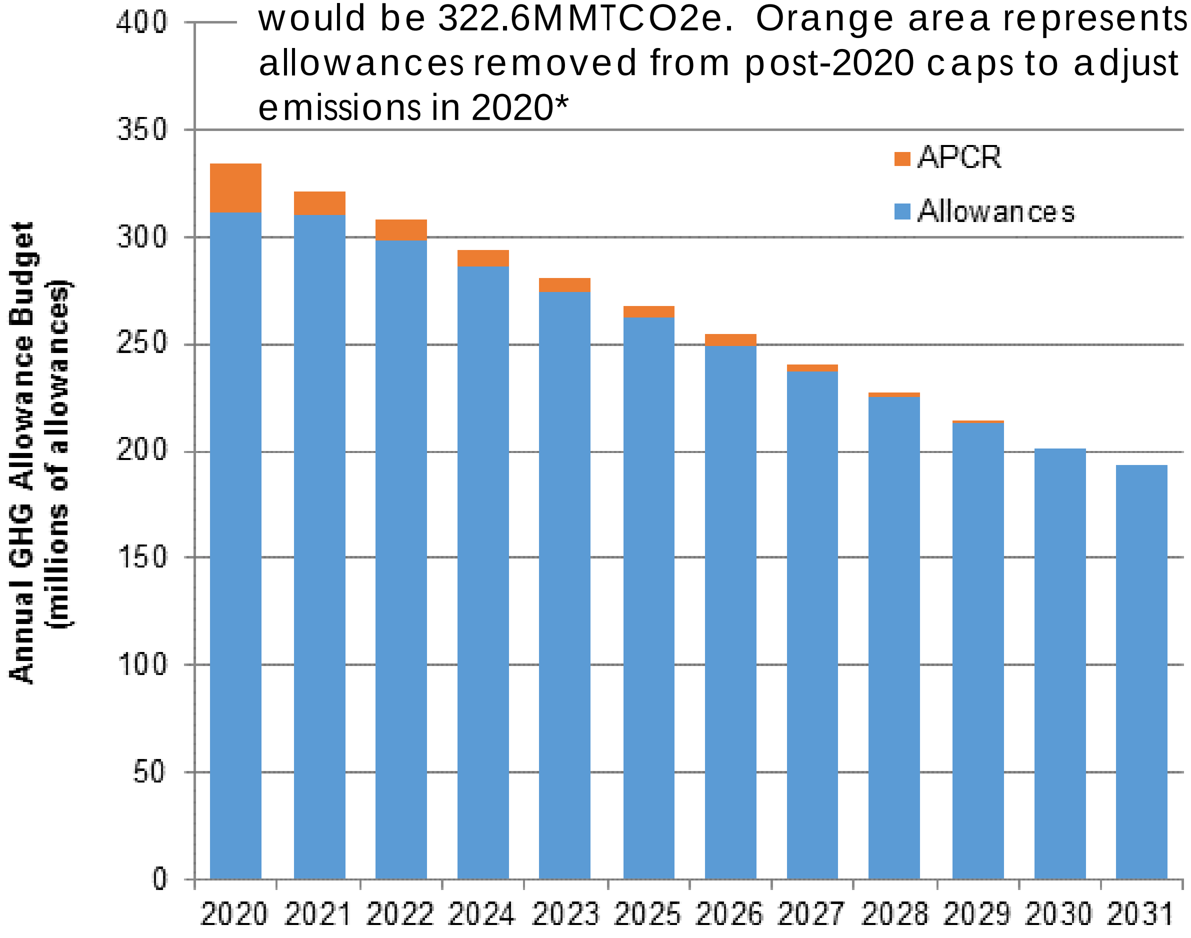
Cap-Setting (4 of 5)

Estimated 2020 emissions of 416MMTCO2e suggest 2020 cap would be 322.6MMTCO2e. Orange area represents allowances removed from post-2020 caps to adjust for lower emissions in 2020*



* No additional allowances were removed from pre-2020 caps for this adjustment

Cap-Setting (5 of 5)

- April 26th workshop included description of initial analysis of *Assessment of Post-2020 Caps*
- Stakeholder Comments
  - Near Zero's written comments assert that CARB staff analysis includes a mistake
  - Requests for staff to explain analysis

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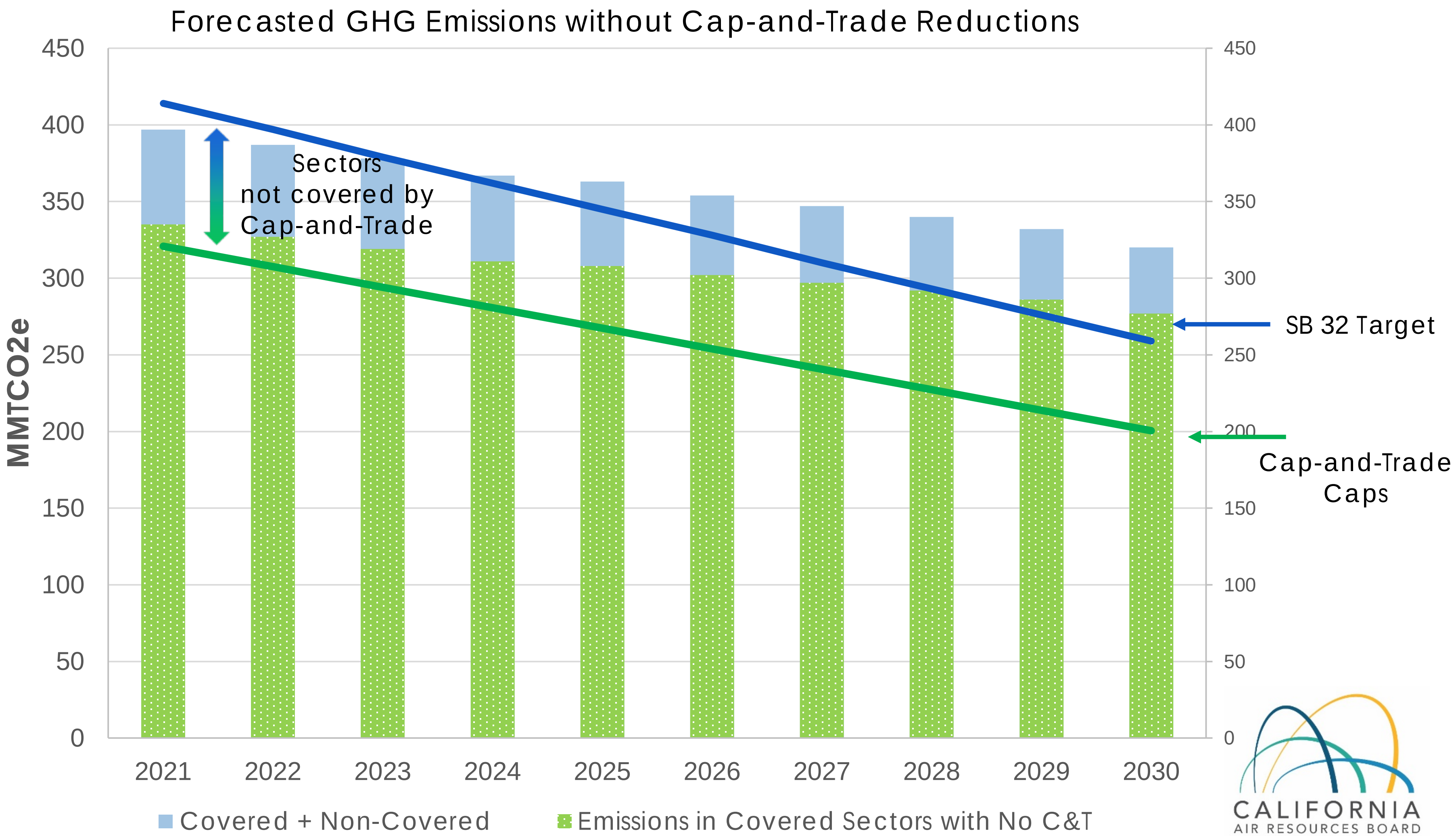
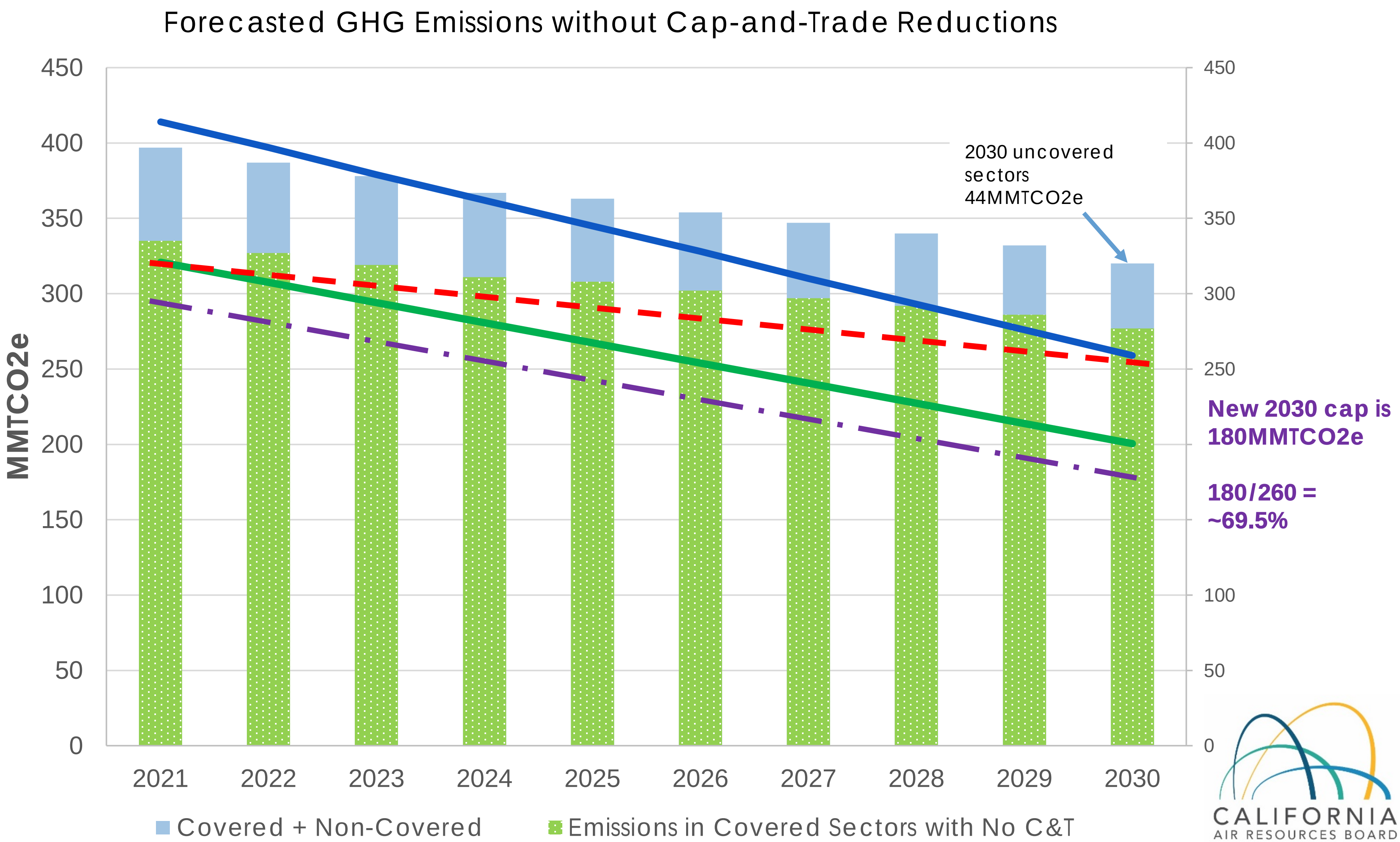
Staff Analysis: Post-2020 Caps in Current Regulation



Additional Adjustments to Staff Analysis Not Needed



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Staff Thinking: Post- 2020 Cap Setting

- Staff analysis does not contain a mistake
- Post-2020 caps set using same method and ratio of covered versus non-covered emissions as current caps
- Post-2020 caps constrain emissions to support steadily increasing carbon price signal

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Compliance Offset Program Recap

- Role of Offsets
  - Important cost containment feature of Program
  - Offset prices available through secondary market and CARB public reports – roughly 15%-20% below Auction Reserve Price
  - Incentivize real reductions outside of capped sectors
  - Enables engagement with Tribes and other jurisdictions
- Total credits to date - 112.8M

Project Type	ODS	Livestock	U.S. Forest	Urban Forest	MMC	Rice Cultivation
Compliance	10,620,050	3,048,941	72,803,847	- -	2,203,737	- -
Early Action	6,336,710	1,695,029	13,276,494	- -	2,879,684	- -

Stakeholder Comments: Direct Environmental Benefits

- Some stakeholders support CARB's use of broad statutory definition of DEBS
- Some commented that DEBS requirement should not be applied retroactively to projects that have already received issuance
- Other commenters suggest that criteria for DEBS should be more specific and not be GHG-related
- CARB position: Direct environmental benefits are in addition to GHG reductions or removals that our Program credits
- Not all offsets will be able to meet DEBS criteria
- Continuing to assess stakeholder comments on this, and desire to ensure approach is practical and able to be implemented

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Offset Usage Limits

Compliance Period (CP)	Emissions Year	Offset Limit (applies to Emissions Year)	Compliance Obligation	
			Year Due	Amount Due
3rd	2020	8%	2021	100% of 2020, remaining 2018 & 2019
4th	2021	4%	2022	30% of 2021
	2022	4%	2023	30% of 2022
	2023	4%	2024	100% of 2023 remaining 2021 & 2022
5th	2024	4%	2025	30% of 2024
	2025	4%	2026	30% of 2025
	2026	6%	2027	100% of 2026 remaining 2024 & 2025

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Staff Thinking: Offset Regulatory Compliance

- CARB staff is considering proposals by stakeholders on how forest offset projects that have minor regulatory noncompliances could still be issued CARB offset credits consistent with the provision previously adopted for livestock, MMC, and ODS projects
  - Temporal limitations
  - Spatial limitations
  - Materiality limitations
- CARB staff is also considering further clarifications to what types of violations may be considered to be unrelated to the project
  - Occupational health and safety
  - Periodic reporting requirements specified in permits

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Staff Thinking: Offset Alternative Data Collection Methodologies

- CARB staff is also considering language on how alternative methodologies for collecting data can be reviewed and approved
  - For methods not anticipated when protocols were developed
  - Must have similar accuracy and be verifiable
  - Allow for easier acceptance of the latest technologies
  - One area of interest is remote sensing/LiDAR for forest projects

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Aligning CARB GHG Accounting and the EIM

- 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
- CARB is currently using a “bridge solution” as the design of EIM does not account for the full GHG emissions experienced by the atmosphere from imported electricity under EIM and results in emissions leakage
- Any staff proposal will only address EIM transactions, not day-ahead market transactions or regionalization

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EIM History and Current Status

- Beginning in 2016, CAISO and CARB coordinated to address secondary dispatch GHG accounting effects
  - CARB implemented an interim "bridge solution," and is retiring State-owned allowances in proportion to EIM Outstanding Emissions
  - Bridge solution was always intended to be temporary
- CAISO proposed and tested a long-term "Two-Pass" solution to replace CARB's bridge solution
  - Tests showed Two-Pass more fully captured emissions serving California load than the current EIM solution; however, stakeholders identified issues
- In early 2018, CAISO released new proposal that is expected to reduce magnitude of GHG accounting issues
- CARB is supportive of proposal, although it does not fully address the accounting issue

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Staff Thinking: EIM First Purchaser Proposal (1 of 2)

- Staff proposes placing obligation for EIM Outstanding Emissions on California "EIM Purchasers" starting in 2019
  - Remove bridge solution upon implementation
- EIM Purchaser: An entity that purchases energy through EIM to serve California load (resource scheduling coordinators, e.g. investor-owned and publicly owned utilities, and energy marketers)
  - Compliance obligation associated with EIM Outstanding Emissions will be directly satisfied by EIM participants
  - Does not place any obligation on out-of-state EIM load or generation
  - Existing allocation to EDUs protects electric ratepayers from the cost burden of this compliance obligation

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Staff Thinking: EIM First Purchaser Proposal (2 of 2)

- Calculation of total annual EIM Outstanding Emissions would remain unchanged in MRR
  - Total California EIM emissions calculated by CARB (total MWhs deemed in EIM × default emission factor × transmission loss factor) less total EIM emissions reported by resources
- Compliance obligation would be based on EIM Purchaser's share of total annual EIM Outstanding Emissions
  - Apportioned to California EIM Purchasers based on level of California EIM participation (annual MWhs purchased to serve CA load in EIM)
  - Similar to imported electricity, zero emissions threshold for reporting and Cap-and-Trade Program compliance obligation
- The proposal is limited to EIM transactions only, and regionalization will be addressed separately

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Staff Thinking: EIM Near-Term Modifications

- Stakeholders have requested that CARB delay consideration of the EIM Purchaser proposal
- However, CARB must ensure that it is accounting for all GHGs resulting from electricity used to serve California load
- Bridge solution will remain in place for 2017, 2018, and likely a portion of 2019 emissions
  - For 2017 emissions, staff will retire unsold allowances pursuant to the current Regulation
  - For 2018 emissions and a portion of 2019 emissions, staff proposes retiring future-vintage allowances from the State allowance budgets

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Public Engagement

- Regulatory drafts & workshops
- Formal rulemaking process
- CARB staff will use due diligence to ensure all market influencing information is made available to all stakeholders at the same time
- Join Cap-and-Trade list serve on CARB website

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Next Steps and Tentative Schedule

- Written comments may be submitted until 5 pm (PDT) Thursday, July 5, 2018, at this site: http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm
- CARB evaluating convening informal market design reviewers to support staff regulatory development process
- Tentative first Board hearing October 2018
- Tentative final Board hearing December 2018

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