State of California
AIR RESOURCES BOARD

PUBLIC HEARING TO CONSIDER THE PROPOSED AMENDMENTS TO THE CALIFORNIA CAP ON GREENHOUSE GAS EMISSIONS AND MARKET-BASED COMPLIANCE MECHANISMS REGULATION

STAFF REPORT: INITIAL STATEMENT OF REASONS

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EXECUTIVE SUMMARY

California Air Resources Board (CARB or Board) staff is proposing to amend the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (Cap-and-Trade Regulation or Regulation; title 17, California Code of Regulations, sections 95801 et seq.). The Cap-and-Trade Program (Program) is a key element of California's strategy to reduce greenhouse gas (GHG) emissions; it complements other measures to ensure that California cost-effectively meets its goals for GHG emissions reductions.

This report presents CARB staff's proposal to amend the Cap-and-Trade Regulation to reflect legislative direction under Assembly Bill (AB) 398 concerning the implementation of the Program beyond 2020, respond to Board direction, clarify and improve the Regulation, and otherwise enhance CARB's ability to implement and oversee the Program. The proposed amendments establish a price ceiling and two price containment points; revise the quantitative offset usage limits in the post-2020 period; establish criteria such that at least half of the allowable quantitative offset usage limits post-2020 result in direct environmental benefits in the State of California; and specify leakage assistance factors for allowance allocation post-2020. The proposed amendments also specify leakage assistance factors for the third compliance period of the Program; make other updates to allowance allocation for certain sectors; clarify use of allocated allowance value for electric distribution utilities and natural gas suppliers; streamline implementation requirements, including clarifying regulatory compliance and invalidation requirements of the Compliance Offset Program; establish a process to assess a compliance obligation for GHG emissions in the Energy Imbalance Market (EIM); and make other changes to improve and clarify the Regulation.

The proposed amendments will also continue the existing linkage with the Québec program, and will modify provisions related to the linkage with Ontario to reflect changes undertaken by Ontario to revoke the Ontario cap-and-trade program effective July 3, 2018. Given that the changes underway in Ontario are ongoing, additional changes may also be proposed as part of a 15-day public notice and comment period for this rulemaking process taking into account the latest actions undertaken by the Ontario government.

Background on AB 32, SB 32, AB 398, and the Cap-and-Trade Regulation

Climate change is one of the most serious environmental threats facing the world today, and California is already feeling its effects. California committed to take action to address the threat through the adoption of the California Global Warming Solutions Act of 2006 (Assembly Bill 32 or AB 32; Chapter 488, Statutes of 2006), which is codified at California Health and Safety Code sections 38500 et seq. AB 32 requires California to reduce GHG emissions to 1990 levels by 2020, to maintain and continue GHG emissions reductions beyond 2020, and to develop a comprehensive strategy to reduce dependence on fossil fuels, to stimulate investment in clean and efficient technologies, and to improve air quality and public health. It identifies CARB as the State agency

charged with monitoring and regulating sources of the GHG emissions that cause climate change. AB 32 also requires CARB to work with other jurisdictions to identify and facilitate the development of integrated and cost-effective regional, national, and international GHG reduction programs. Furthermore, AB 32 authorizes CARB to utilize a market-based mechanism to reduce GHG emissions, and CARB promulgated the Cap-and-Trade Regulation pursuant to this authority.

The Legislature recently reaffirmed California's commitment to taking action against climate change by adopting Senate Bill (SB) 32 (Chapter 250, Statutes of 2016), which further directs CARB to ensure that state GHG emissions are reduced to at least 40 percent below the 1990 level no later than December 31, 2030. In addition, Assembly Bill 398 (AB 398, Chapter 135, Statutes of 2017) amends certain provisions of AB 32 to take effect starting January 1, 2021, and clarifies the role of the Cap-and-Trade Program in achieving the 2030 GHG reduction target. In passing AB 398, the Legislature, through a two-thirds supermajority vote, directed many of the changes proposed in this rulemaking, while simultaneously offering strong support for the Cap-and-Trade Program as one of California's principal tools for achieving the state's emissions reduction targets.

The Regulation establishes a declining limit on major sources of GHG emissions, and it creates a powerful economic incentive for significant investment in cleaner, more efficient technologies. The Program applies to emissions that cover approximately 80 percent of the State's GHG emissions. CARB creates allowances equal to the total amount of permissible emissions (i.e., the "cap"). One allowance equals one metric ton of carbon dioxide equivalent emissions (using the 100-year global warming potentials). Fewer allowances are created each year, thus the annual cap declines. An increasing annual auction reserve (or floor) price for allowances and the reduction in annual allowance budgets creates a steady and sustained carbon price signal to prompt action to reduce GHG emissions. All covered entities in the Cap-and-Trade Program are still subject to the air quality permit limits for criteria and toxic air pollutants.

The Program is designed to achieve the most cost-effective statewide GHG emissions reductions; there are no individual or facility-specific emissions reduction requirements. Each entity covered by the Regulation has a compliance obligation that is equivalent to its covered GHG emissions over a compliance period, and entities are required to meet that compliance obligation by acquiring and surrendering allowances in an amount equal to their compliance obligation. Covered entities can also meet a limited portion of their compliance obligation by acquiring and surrendering offset credits, which are compliance instruments that are issued for rigorously verified emission reductions that occur from projects outside the scope of the Program. Like allowances, each offset credit is equal to one metric ton of carbon dioxide equivalent emissions.

The Program began in January 2013 and achieved a near 100 percent compliance rate for the first compliance period (2013-2014), as well as for the first two years of the second compliance period (2015-2017).

Allowances are issued by CARB and distributed both by free allocation – to minimize leakage and protect ratepayers – and by sale at auctions. Offset credits are issued by CARB to qualifying offset projects. Secondary markets exist where allowances and offset credits may be sold and traded among Program participants. Covered entities must submit allowances and offsets to CARB to account for their GHG emissions. Entities have flexibility to choose the lowest-cost approach to achieving Program compliance; they may purchase allowances at auction, trade allowances and offset credits with others, or take steps to reduce emissions at their own facilities. Monies from the sale of State-owned allowances at auction are placed into the Greenhouse Gas Reduction Fund (GGRF) and are appropriated, through the budgeting process, consistent with state law to further the purposes of AB 32.

The Program is also designed to accommodate regional trading programs. Since 2007, California has been a partner in the Western Climate Initiative (WCI), an effort of U.S. states and Canadian provinces working together to implement policies to combat climate change, including through the development of a regional cap-and-trade system. Staff works with other WCI jurisdictions to ensure that rigorous and compatible systems are being developed. This cooperation facilitates future Program linkages with other developing GHG reduction programs in the region. On January 1, 2014, California and Québec linked their respective cap-and-trade programs. On January 1, 2018, the Program linked with the cap-and-trade program in Ontario. As described later in this Staff Report: Initial Statement of Reasons (ISOR or Staff Report), the proposed amendments will include additional changes to de-link with Ontario's program to reflect recent changes undertaken by Ontario to suspend the Ontario cap-and-trade program effective July 3, 2018.

Background on AB 197 and AB 617

Concurrent to the development of the 2017 Scoping Plan Update and approval of AB 398, two additional significant pieces of legislation were enacted -- Assembly Bill 197 (AB 197) (E. Garcia, Chapter 250, Statutes of 2016) and Assembly Bill 617 (AB 617) (C. Garcia, Chapter 136, Statutes of 2017). These two bills recognized the need for the state to continue to identify and effectively address concerns related to local air quality impacts, especially in the state's most vulnerable communities and provide more direct tools to assist the State and air districts in improving air quality.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Specifically, the statute requires CARB, when adopting rules and regulations to achieve emissions reductions and to protect the State's most affected and disadvantaged communities, to consider the social costs of GHG emissions and prioritize both of the following:

- Emissions reductions rules and regulations that result in direct GHG emissions reductions at large stationary sources of GHG emissions and direct emissions reductions from mobile sources.
- Emissions reductions rules and regulations that result in direct GHG emissions reductions from sources other than those listed above.

AB 197 also includes additional requirements for public access to air pollutant data and several new analyses to be included in the development of the scoping plan.

AB 617, the companion bill to AB 398, provides direction to strengthen air quality monitoring and reduce air pollution at a community level, in communities affected by a high cumulative burden of exposure to pollution. CARB has established the Community Air Protection Program and will be taking comprehensive action with the air districts, the communities, and other stakeholders to achieve AB 617 requirements. By October 2018, the CARB Governing Board will select the focal communities for the first year and set the Program requirements. At that time CARB will also launch the Technology Clearinghouse for the cleanest pollution control technologies: best available control technologies (BACT), best available retrofit control technologies (BARCT), and best available control technologies for air toxics (T-BACT). The air districts will lead the following actions for the "first-year" communities over the next two years:

- Form community steering committees and begin to develop the community emissions reduction programs
- Develop expedited schedules for implementing BARCT, which must be implemented by the end of 2023
- Deploy monitoring in communities selected for community air monitoring system
- Adopt programs in first-year communities selected for community emissions reduction programs

Air districts will provide annual reports for first-year communities selected for community emissions reduction programs. By December 2019 and annually thereafter, the CARB Governing Board will additional communities for air monitoring and community emissions reduction programs and consider air districts' community emissions reduction programs.[1]

In addition, AB 617 requires CARB to develop a statewide strategy to reduce criteria pollutants and toxic air contaminants (TACs) in communities affected by high cumulative exposure burdens through approved community emissions reduction programs developed by local air districts, in partnership with residents in the affected communities; requires CARB to establish a uniform system of annual reporting of criteria pollutants and TACs for the existing statewide air monitoring network; and expedites implementation of best available retrofit control technology in nonattainment areas.

Regulatory Development of the Cap-and-Trade Regulation

The Regulation was adopted by the Board in October 2011, and it took effect January 1, 2012. The first allowance auction occurred in November 2012, and the first compliance period began January 1, 2013. Since its initial adoption, the Regulation has

[1] The implementation details can be found in the June 23, 2018 version of the Draft Community Air Protection Blueprint, available at https://ww2.arb.ca.gov/sites/default/files/2018-06/draft_community_air_protection_blueprint.pdf.

been amended multiple times to streamline Program requirements, include linkage with Québec, and incorporate new mandates. These amendments were approved in 2013, 2014, and 2015.

In 2016 and 2017, CARB staff proposed amendments to clarify compliance obligations for certain sectors; continue Program linkage with Québec beyond 2020; link the Program with the new cap-and-trade program in Ontario beginning January 2018; and establish a post-2020 framework for caps, enabling future auction and allocation of allowances, and continuing all other provisions needed to implement the Program after 2020. The Board adopted these amendments on July 27, 2017, and they went into effect on October 1, 2017. In adopting these amendments, the Board recognized that additional modifications to the Program are required through a new rulemaking process to implement the AB 398 requirements for the post-2020 Cap-and-Trade Program. Board Resolution 17-21 directed the Executive Officer to initiate this rulemaking process. The result is the current amendment process, which has been informed by informal workshops on October 12, 2017, March 2, 2018, April 26, 2018, and June 21, 2018, each of which also included a public comment period.[2]

Most recently, in January 2018, CARB staff proposed a narrow set of amendments to the Regulation to ensure that the responsibility to meet compliance obligations is transferred to new owners along with assets during an ownership change process. The amendments also clarified the regulatory procedure for establishing the Auction Reserve Price by ensuring consistency with the procedure for establishing the Auction Reserve Price as set in regulations in linked programs, and ensure that California can certify joint auctions regardless of which jurisdiction's Auction Reserve Price is used for a joint auction. The Board approved these amendments on March 22, 2018, and they went into effect on May 30, 2018.

The full regulatory record and background for these previous Cap-and-Trade Regulation rulemakings is available at the main Cap-and-Trade Program webpage.[3]

Proposed Amendments to the Cap-and-Trade Regulation

Staff Proposal

In October 2017, staff began a public process to propose amendments (the “proposed amendments”) for Board consideration that would make the Program consistent with AB 398 requirements, respond to direction in Board Resolution 17-21, clarify the Regulation, and enhance CARB’s ability to oversee and implement the Regulation. The proposed amendments would:

[2] For more information, workshop comments, presentations and other materials can be found on the Cap-and-Trade website at https://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm.
[3] For more information on previous Cap-and-Trade Regulation rulemakings, see https://www.arb.ca.gov/cc/capandtrade/capandtrade.htm.

- Establish and implement a price ceiling and two price containment points (also called new post-2020 Reserve tiers in this ISOR);[4]
- Revise the quantitative offset usage limits in the post-2020 period;
- Establish criteria such that at least half of the offset credits limits post-2020 result in direct environmental benefits in the State of California;
- Specify leakage assistance factors for allowance allocation post-2020 and in the third compliance period;
- Update allowance allocation methodologies to expand transition assistance and make other changes to ensure appropriate allocation levels;
- Clarify how allowance value allocated to electricity distribution utilities (EDUs) and natural gas suppliers can best be used to further the goals of AB 32 and protect ratepayers;
- Streamline offset implementation requirements, including clarifying regulatory compliance and invalidation requirements of the Compliance Offset Program;
- Establish a process to assess a compliance obligation for GHG emissions in the EIM;
- Clarify rules for the use of compliance instruments with respect to other regulatory programs;
- Modify provisions related to linkage with Ontario to delink with Ontario's program in order to reflect recent changes underway in Ontario with respect to its cap-and-trade regulation;
- Simplify participation in the Program by streamlining registration, auction participation, and other Program processes;
- Modify provisions to improve clarity regarding expired limited exemptions; and
- Make non-substantive changes to improve and clarify the Regulation.

Evaluation of Regulatory Alternatives

Staff analyzed three regulatory alternatives to the proposed Cap-and-Trade Regulation: (1) a "no project" alternative (meaning these amendments do not occur); (2) setting the price ceiling at a higher level; and (3) setting the price ceiling at a lower level. In evaluating these alternatives, CARB staff found that none were as or more effective than implementing the proposed amendments to the Program for achieving the goals of AB 32, SB 32, and AB 398. In recommending the amendments included in this proposal, staff balanced the need to meet AB 398 requirements and Board direction while maintaining the environmental integrity of the Program, retaining flexibility for covered entities to help ensure cost-effectiveness, minimize leakage, and considering the potential for co-benefits.

[4] Consistent with terminology used during the informal public process, for the purposes of this document, "current Reserve" means the existing allowance price containment reserve with three price tiers, "post-2020 Reserve" means the collapsed single tier reserve as currently included in the Cap-and-Trade Regulation, and "new post-2020 Reserve" means the two tier reserve structure as directed in AB 398.

Environmental Analysis

The proposed amendments have been evaluated for possible environmental impacts in a Draft Environmental Analysis (Draft EA) prepared by CARB consistent with the requirements of the California Environmental Quality Act (CEQA). The full Draft EA is provided in Appendix B of this Staff Report, and it is summarized in Chapter VI. It provides a programmatic environmental analysis of illustrative, reasonably foreseeable compliance scenarios that could result from implementation of the proposed amendments to the Cap-and-Trade Regulation. The Draft EA identifies potential adverse impacts and potential environmental benefits associated with the proposed amendments to the Regulation (referred to as the "Proposed Project" in the Draft EA).

The Draft EA states that implementation of the proposed amendments would continue beneficial reductions in GHG emissions, criteria pollutant emissions, and energy demand. The Draft EA adopts a conservative approach in its significance conclusions and discloses, for CEQA compliance purposes, that some impacts of the proposed amendments could be potentially significant and unavoidable. While many impacts associated with the proposed amendments could be reduced to a less-than-significant level through conditions of approval applied to project-specific development, the authority to apply that mitigation does not lie with CARB, so those impacts are conservatively deemed potentially significant and unavoidable. The Draft EA identified potentially significant air quality impacts related to activities that disturb the ground, such as construction projects or site preparation for tree planting to establish offset credits. Such impacts are likely to be mitigated during project development, but are nonetheless possible. CARB and other state agencies have undertaken substantial efforts to analyze the potential for adverse localized air quality impacts, which have informed CARB's proposed amendments. These efforts include Office of Environmental Health Hazard Assessment (OEHHA) reporting, CARB Adaptive Management Planning, continued integration of emissions data, Assembly Bill 197 (AB 197)/SB 32 reporting, and Assembly Bill 617 (AB 617) reporting.

The Draft EA also analyzes cumulative impacts as required under CEQA. The Draft EA identifies relevant programs that would result in related impacts. These include the 2017 Climate Change Scoping Plan (adopted in 2017) to address a 2030 target, renewable energy and energy efficiency, SB 350, increased stringency of Low Carbon Fuel Standard (LCFS) (18 percent carbon intensity [CI] reduction by 2030), Mobile Source Strategies and Sustainable Freight Strategy, Short-Lived Climate Pollutant Reduction Strategy (SLCP Strategy), and increased stringency of SB 375 2035 targets for Sustainable Communities Strategies. The Draft EA states that implementation of the proposed amendments, when reviewed under a conservative scenario, would potentially result in cumulatively considerable contributions to significant cumulative impacts related to certain resource areas. While project-level mitigation is likely to occur for each potential cumulatively considerable contribution to a significant impact, other agencies would be responsible for implementing the mitigation measures. Consequently, it is uncertain whether mitigation measures would be implemented, which precludes assurance that significant impacts would be avoided or reduced to a

less-than-significant level. Where impacts cannot feasibly be mitigated or where there is uncertainty about implementation of mitigation, the Draft EA recognizes the impact as significant and unavoidable.

Economic Assessment

The Cap-and-Trade Program establishes a declining limit on 80 percent of statewide GHG emissions and creates a powerful economic incentive for major investment in cleaner, more advanced technologies. The Program also gives businesses the flexibility to choose the lowest-cost approach to reducing GHG emissions.

The proposed amendments include modifications to the Program in several areas that would take effect within the Program's third compliance period (2018-2020) as well as the post-2020 period of the Program to conform with the requirements of AB 398. AB 398 clarified the role of the Cap-and-Trade Program to help realize California's GHG emissions reduction target of at least 40 percent below 1990 levels by 2030, as mandated in SB 32. The economic analysis in this document represents a snapshot of the proposed amendments based on the best information available to CARB at the time of the ISOR submittal.

The proposed amendments have been evaluated for possible economic impacts to California businesses and individuals and to state budgets. Analysis shows that the proposed amendments will have both economic and fiscal impacts. The amount of these impacts (both positive and negative) will be small in relation to the already existing Program costs.

Staff Recommendation

Staff recommends that the Board adopt the proposed amendments to the Cap-and-Trade Regulation. The proposed amendments make the Program consistent with AB 398 requirements, respond to Board direction, update existing provisions to ensure appropriate allowance allocation to provide transition assistance and minimize emissions leakage, establish a process to assess compliance obligations for GHG emissions in the EIM, and enhance CARB's ability to implement and oversee the Regulation. In doing so, the proposed amendments will enable the Program to continue to reduce GHG emissions while minimizing emissions leakage and benefitting the California economy through investment in clean energy technologies. The proposed amendments will also continue the existing linkage with the Québec program and modify provisions related to linkage with Ontario to de-link with Ontario's cap-and-trade program in order to reflect action undertaken by Ontario to revoke its cap-and-trade program.

I. INTRODUCTION AND BACKGROUND

This Staff Report presents CARB staff's rationale for proposed amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (Cap-and-Trade Regulation or Regulation, title 17, California Code of Regulations, sections 95801 et seq.), which was developed pursuant to the California Global Warming Solutions Act of 2006 (Assembly Bill 32 or AB 32; Chapter 488, Statutes of 2006). AB 32 established an initial goal for California to reduce statewide greenhouse gas (GHG) emissions to 1990 levels by the year 2020 and to maintain and continue GHG emissions reductions beyond 2020. As one of the suite of measures developed to help the State achieve the 2020 limit, the Cap-and-Trade Regulation is designed to cost-effectively reduce GHG emissions by establishing a cap covering the State's major emission sources, applying a cost to those GHG emissions, and therefore driving investment in cleaner and more efficient technologies.

Senate Bill (SB) 32 (Chapter 250, Statutes of 2016) further directs CARB to ensure that state GHG emissions are reduced to at least 40 percent below the 1990 level no later than December 31, 2030. In addition, AB 398 (Chapter 135, Statutes of 2017) amends certain provisions of AB 32 to take effect starting January 1, 2021 and clarifies the role of the Cap-and-Trade Program in achieving the 2030 GHG reduction target. In passing AB 398, the Legislature, through a two-thirds supermajority vote, directed many of the changes proposed in this rulemaking, while simultaneously offering strong support for the continuing existence and importance of the Cap-and-Trade Program as one of California's principle tools for achieving the state's emissions reduction targets.

Some of the proposed amendments pertain to the third compliance period of the Cap-and-Trade Program (Program), which began January 1, 2018, and some proposed amendments affect the Program in the post-2020 period. Proposed amendments that affect the Program starting in the third compliance period would provide transition assistance to waste-to-energy facilities; revise assistance factors for low- and medium-leakage risk sectors; and revise allocation methodologies to reflect these and other circumstances, such as new entrants to the Program. Amendments that would affect the post-2020 Program period starting January 1, 2021 include providing transition assistance to legacy contract generators with non-industrial counterparties; adjusting cap adjustment factors for certain industrial sectors; making allowance allocation assistance factors 100 percent for all industrial sectors; establishing and implementing a price ceiling and new post-2020 reserve tiers;[5] updating quantitative offset usage limits, and establishing provisions for compliance with AB 398 "direct environmental benefits in the state" (DEBS) requirements.

[5] Consistent with terminology used during the informal public process, for the purposes of this document, "current Reserve" means the existing allowance price containment reserve with three price tiers which is in effect until 2020, "post-2020 Reserve" means the collapsed single tier reserve as currently included in the Cap-and-Trade Regulation for post-2020, and "new post-2020 Reserve" means the two tier reserve structure as directed in AB 398.

Updates that are not linked to a specific period of the Program clarify allowable uses of allowance value allocated to EDUs and natural gas suppliers; assign a compliance obligation for GHG emissions in the EIM; and make clarifying changes related to the compliance offsets program, account registration, and auction processes, among other aspects of the Program. Some non-substantive changes are made to the Regulation to correct typographical errors and improve internal consistency. The proposed amendments will also continue the existing linkage with the Québec program, and modify provisions related to the linkage with Ontario to de-link with Ontario's program to reflect recent changes undertaken by Ontario to revoke the Ontario cap-and-trade program effective July 3, 2018. These changes are described further in the next section of this ISOR. Given that the changes underway in Ontario are ongoing, additional changes may also be proposed as part of a 15-day public notice and comment period for this rulemaking process taking into account the latest actions undertaken by the Ontario government.

As the proposed Cap-and-Trade Regulation amendments have been developed, there has been a parallel regulatory process to amend the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (MRR) to ensure that the emissions and product data reported pursuant to MRR are accurate and fully support the Cap-and-Trade Program. The amendments to MRR are a separate rulemaking from the amendments to the Cap-and-Trade Regulation, but both processes are following a similar regulatory schedule for development.

This introduction describes the climate change problem that is addressed by the Regulation, and provides background information on California's Climate Change Scoping Plan, the Cap-and-Trade Program, and the Western Climate Initiative (WCI). The proposed amendments build upon the Regulation that is currently in force, including all previous amendments approved by the Board.

A. Description of the Public Problem

Climate scientists agree that global warming and other shifts in the climate system observed over the past century are caused by human activities. These recorded changes are occurring at an unprecedented rate (Cook et al. 2016). According to new research, unabated GHG emissions could allow sea levels to rise up to ten feet by the end of this century—an outcome that could devastate coastal communities in California and around the world (California Ocean Protection Council 2017).

California is already feeling the effects of climate change, and projections show that these effects will continue and worsen over the coming centuries. The impacts of climate change have been documented by the Office of Environmental Health Hazard Assessment (OEHHA) in the Indicators of Climate Change Report (OEHHA 2018), which details the following changes that are occurring already:

- A recorded increase in annual average temperatures, as well as increases in daily minimum and maximum temperatures.
- An increase in the occurrence of extreme events, including wildfire and heat waves.
- A reduction in spring runoff volumes as a result of declining snowpack.
- A decrease in winter chill hours necessary for the production of high-value fruit and nut crops.
- Changes in the timing and location of species sightings, including upslope migration of flora and fauna.

In addition to these trends, the State's current conditions point to a changing climate. California's recent historic drought led to land subsidence, pest invasions that killed over 100 million trees, and water shortages throughout the State. Recent scientific studies show that such extreme drought conditions are more likely to occur under a changing climate (Diffenbaugh et al. 2015; Cayan et al. 2010). The total statewide economic cost of the 2013 - 2014 drought was estimated at $2.2 billion, with a total loss of 17,100 jobs (Howitt et al. 2014). In the Central Valley, the drought cost California agriculture about $2.7 billion and more than 20,000 jobs in 2015, which highlights the critical need for developing drought resilience (Williams et al. 2015). Drought affects other sectors as well. An analysis of the amount of water consumed in meeting California's energy needs between 1990 and 2012 shows that while California's energy policies have supported climate mitigation efforts, the performance of these policies have increased vulnerability to climate impacts, especially greater hydrologic uncertainty (Fulton and Cooley 2015).

Several publications carefully examined the potential role of climate change in the recent California drought. One study examined both precipitation and runoff in the Sacramento and San Joaquin River basins and found that 10 of the past 14 years between 2000 and 2014 have been below normal, and that recent years have been the driest and hottest in the full instrumental record from 1895 through November 2014 (Mann and Gleick 2015). In another study, the authors show that the increasing co-occurrence of dry years with warm years raises the risk of drought and highlight the critical role of elevated temperatures in altering water availability and increasing overall drought intensity and impact (Diffenbaugh et al. 2015). Generally, there is growing risk of unprecedented drought in the western United States driven primarily by rising temperatures, regardless of whether or not there is a clear precipitation trend (Cook et al. 2015). Even more recently, California has been experiencing the deadliest wildfires in its history. Climate change is making events like these more frequent, more catastrophic, and more costly.

A warming climate also causes sea level to rise; first, by warming the oceans which causes the water to expand, and second, by melting land ice which transfers water to the ocean. Even if storms do not become more intense or frequent, sea level rise itself will magnify the adverse impacts of storm surges and high waves on the California coast. Some observational studies report that the largest waves are already getting higher and winds are getting stronger (National Research Council of the

National Academy of Sciences 2012). Further, as temperatures warm and GHG concentrations increase, more carbon dioxide dissolves in the ocean, making it more acidic. More acidic ocean water affects a wide variety of marine species, including species that people rely on for food. Recent projections indicate that if no significant GHG mitigation efforts are taken, the San Francisco Bay Area may experience sea level rise between 1.6 and 3.4 feet, and in an extreme scenario involving the rapid loss of the Antarctic ice sheet, sea levels along California's coastline could rise up to 10 feet by 2100 (California Ocean Protection Council 2017). This change is likely to have substantial ecological and economic consequences in California and worldwide (Chan et al. 2016).

While more intense dry periods are anticipated under warmer conditions, extremes on the wet end of the spectrum are also expected to increase due to more frequent warm, wet atmospheric river events and a higher proportion of precipitation falling as rain instead of snow. In recent years, atmospheric rivers have been recognized as the cause of the large majority of major floods in rivers all along the U.S. West Coast and as the source of 30–50 percent of all precipitation in the same region (Dettinger 2013). These extreme precipitation events, together with the rising snowline, often cause devastating floods in major river basins (e.g., California's Russian River). It was estimated that the top 50 observed floods in the U.S. Pacific Northwest were due to atmospheric rivers (Warner et al. 2012). Looking ahead, the frequency and severity of atmospheric rivers on the U.S. West Coast will increase due to higher atmospheric water vapor content that occurs with rising temperature, leading to more frequent flooding (Hagos et al. 2016; Payne and Magnusdottir 2015).

Looking globally, climate change can drive extreme weather events, such as coastal storm surges, drought, wildfires, floods, and heat waves, and disrupt environmental systems including our forests and oceans. As GHG emissions continue to accumulate and climate disruption grows, such destructive events will become more frequent. Several recent studies project increased precipitation within hurricanes over ocean regions (Easterling et al. 2016; National Academy of Sciences 2016). The primary physical mechanism for this increase is higher water vapor content in the warmer atmosphere, which enhances moisture convergence in a storm for a given circulation strength. Since hurricanes are responsible for many of the most extreme precipitation events, such events are likely to become more extreme. Anthropogenic warming by the end of the 21st century will likely cause tropical cyclones globally to become more intense on average. This change implies an even larger percentage increase in the destructive potential per storm, assuming no changes in storm size (Sobel et al. 2016; Kossin et al. 2016). Thus, the historical record, which once set expectations for the range of weather and other natural events, is becoming an increasingly unreliable predictor of the climate conditions we will face in the future. Consequently, the best available science must drive effective climate policy.

It is imperative that California continue to work to reduce GHG emissions in order to decrease the probability of these impacts. In 2005, Governor Schwarzenegger issued Executive Order S-3-05 (EO S-3-05), which set, among other things, targets of reducing

statewide GHG emissions to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050. In 2006, California enacted AB 32 to address this public problem by requiring cost-effective reductions in GHG emissions and by codifying the 2020 target. AB 32 directed CARB to continue its leadership role on climate change and to develop a scoping plan identifying integrated and cost-effective regional, national, and international GHG reduction programs. In 2015, Governor Brown issued Executive Order B-30-15 (EO B-30-15), which set a goal of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030. In 2016, the Legislature passed, and Governor Brown signed, SB 32, which codified the 40 percent reduction goal from 1990 levels by 2030.

In July 2017, Governor Brown signed a legislative package clarifying the role of the Cap-and-Trade Program in achieving the 2030 GHG reduction target (AB 398; Chapter 135, Statutes of 2017) and establishing a new program to improve air quality in local communities (AB 617; Chapter 136, Statutes of 2017). The legislation helps ensure California continues to meet its ambitious climate change goals while addressing air pollution in communities with the dirtiest air. AB 398 also provided direction on the 2017 Scoping Plan Update and required its adoption by January 1, 2018. This rulemaking process will implement the requirements of AB 398 pertaining to the Cap-and-Trade Program. With respect to AB 617, CARB has begun work to implement a new community-focused air quality program including monitoring and emission reduction plans.

On December 14, 2017, the Board unanimously approved the 2017 Climate Change Scoping Plan (CARB 2017a), which sets out specific measures to accomplish California's plan to reduce climate-changing gases an additional 40 percent below 1990 levels by 2030 pursuant to SB 32.

B. Background

1. Climate Change Scoping Plan

Pursuant to AB 32, the first Climate Change Scoping Plan (Initial Scoping Plan; CARB 2008) was adopted in 2008 and laid out a comprehensive program to reduce California's GHG emissions to 1990 levels by 2020, to reduce the State's dependence on fossil fuels, to stimulate investment in clean and efficient technologies, and to improve air quality and public health. The Initial Scoping Plan presented the first economy-wide approach to reducing emissions and highlighted the value of combining both carbon pricing with other complementary programs to meet California's 2020 GHG emissions target while ensuring progress in all sectors. The coordinated set of policies in the Initial Scoping Plan employed strategies tailored to specific needs, including market-based compliance mechanisms, performance standards, technology requirements, and voluntary reductions. The Initial Scoping Plan also described a conceptual design for a cap-and-trade program that included eventual linkage to other cap-and-trade programs to form a larger regional trading program. As implemented, the Cap-and-Trade Program is designed to work in concert with other measures, such as

standards for cleaner vehicles, low-carbon fuels, renewable electricity, and energy efficiency. The Program also complements and supports California's existing efforts to reduce criteria and toxic air pollutants. AB 32 also requires the Scoping Plan to be updated at least once every five years.

The First Update to the Scoping Plan (First Update), approved in 2014, presented an update on the program and its progress toward meeting the 2020 limit (CARB 2014). It also developed the first vision for long-term progress beyond 2020. In doing so, the First Update laid the groundwork for the goals set forth in Executive Orders S-3-05[6] and B-16-2012.[7] It also identified the need for a 2030 mid-term target to establish a continuum of actions to maintain and continue reductions, rather than only focusing on targets for 2020 or 2050.

On December 14, 2017, the Board unanimously approved the 2017 Climate Change Scoping plan update. Over 20 state agencies collaborated to produce the Plan, informed by 15 state agency-sponsored workshops and more than 500 public comments. The broad range of state agencies involved reflects the complex nature of addressing climate change and the need to work across institutional boundaries and traditional economic sectors to effectively reduce GHG emissions. The 2017 Scoping Plan Update incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State's climate goals.

Guided by legislative direction, the actions identified in the 2017 Scoping Plan Update (CARB 2017a) reduce overall GHG emissions in California and deliver policy signals that will continue to drive investment and certainty in a low carbon economy. The 2017 Scoping Plan Update builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constrains and reduces emissions at covered sources.

2. Cap-and-Trade Regulation

California's Cap-and-Trade Regulation was adopted by CARB in October 2011, and the Regulation took effect on January 1, 2012. The first allowance auction occurred in November 2012, and the first compliance period began on January 1, 2013. As part of the initial adoption of the Cap-and-Trade Program, CARB also adopted compliance offset protocols for U.S. Forest Projects, Livestock Projects, Urban Forest Projects, and Ozone Depleting Substances (ODS) Projects. On January 1, 2014, California and Québec formally linked their Cap-and-Trade Programs, allowing transfers of compliance

[6] *See* http://www.climatechange.ca.gov/state/executive_orders.html for more information.
[7] *See* https://www.gov.ca.gov/news.php?id=17472 for more information.

instruments between the two jurisdictions. On January 1, 2018, California, Québec, and Ontario formally linked their Cap-and-Trade Programs, allowing transfers and use of compliance instruments among the three jurisdictions.

The Program establishes a hard, declining cap on approximately 80 percent of total statewide GHG emissions, and it creates a strong economic incentive for investments in cleaner, more efficient technologies. CARB issues allowances equal to the total amount of permissible emissions over a given compliance period. One allowance equals one metric ton of carbon dioxide equivalent (using the 100-year global warming potential). Each compliance period represents either a 2-year or 3-year block in the Program, 2013-2014, 2015-2017, 2018-2020, 2021-2023, 2024-2026, 2027-2029, and 2030 and beyond. Having multiyear compliance periods allows for smoothing of annual emissions variations that may be due to drought or unique production conditions. As the cap declines over time, fewer allowances are issued. A steady decline in allowance supply coupled with an increasing Auction Reserve Price over time ensures a steadily increasing carbon price signal to prompt emissions reductions to achieve the statewide target.

The Program is designed to achieve the most cost-effective statewide GHG emissions reductions. There are no individual or facility-specific emissions reduction requirements; rather, each covered entity must acquire and surrender compliance instruments in an amount equal to its total covered GHG emissions during each compliance period. Covered entities can also meet a portion of their compliance obligation by surrendering offset credits, which are compliance instruments that are derived from rigorously verified emissions reductions from projects outside the scope of the Program. Like allowances, each offset credit is equal to one metric ton of carbon dioxide equivalent emissions. Allowances are issued by CARB and distributed by free allocation and by sale at auction; offset credits are issued by CARB for emission reductions at qualifying offset projects. A market exists where allowances and offset credits may be sold and traded among Program participants. By virtue of being linked to the Québec and Ontario cap-and-trade systems, California entities can also use Québec and Ontario-issued allowances and offsets, as all compliance instruments issued by all three jurisdictions are fully fungible.

The Program gives covered entities the flexibility to develop their most cost-effective compliance strategy. They may find methods to reduce emissions at their own facilities, trade allowances and offsets with other firms, and/or purchase allowances at auction. Through these mechanisms, the Program is designed to leverage the power of the market to find the most cost-effective methods to reach California's environmental goals. The ability to auction and trade allowances establishes a price signal needed to drive long-term investment in cleaner fuels, new technology, and more efficient energy use. It also provides flexibility for covered entities to seek out and implement the lowest-cost options to reduce emissions.

Since its initial adoption, the Regulation has been amended six times to streamline Program requirements, include jurisdictional linkages, and incorporate new mandates.

- In 2012, CARB proposed two sets of amendments to the Regulation. The first set of amendments, related to Program implementation, was approved by the Board in June 2012 and took effect in September 2012. The second set of amendments, related to jurisdictional linkage with Québec, was approved by the Board in April 2013. These amendments took effect in October 2013 and specified a January 1, 2014 start date for the linked California and Québec cap-and-trade Programs.

- In 2013, the Board considered amendments to extend transition assistance (free allowance allocation to the industrial sector at the outset of the Program to avoid sudden or undue short-term economic impacts and to promote a transition to a low-carbon economy) for some covered entities, refine the required data collected from registered participants to support market oversight, and add an additional cost containment measure. These amendments also included a new compliance offset protocol, Mine Methane Capture, and updates to offset implementation and usage. The Board approved these amendments in April 2014 and they took effect on July 1, 2014.

- In 2014, CARB staff proposed an additional two sets of Cap-and-Trade Regulation amendments. The first set of targeted amendments clarified the quantification of production data, updated the compliance offset protocols, and modified requirements related to compliance, corporate association disclosures, and offset transfer price reporting related to the transaction of market instruments. This first set of 2014 amendments was adopted by the Board in September 2014, and they took effect January 1, 2015. The second set of 2014 amendments modified the Regulation to include a new Rice Cultivation Compliance Offset Protocol and to update the United States Forest Compliance Offset Protocol to allow eligibility for projects in parts of Alaska. This second set of amendments was adopted by the Board in June 2015 and became effective November 1, 2015.

- In 2016, CARB staff proposed amendments to clarify compliance obligations for certain sectors; continue Program linkage with Québec beyond 2020; link the Program with the new cap-and-trade program in Ontario beginning January 2018; and establish a post-2020 framework for caps, enabling future auction and allocation of allowances, and continuing all other provisions needed to implement the Program after 2020. The Board adopted these amendments on July 27, 2017, and they went into effect on October 1, 2017. In adopting these amendments, the Board recognized that additional modifications to the Program are required through a new rulemaking process to implement the AB 398 requirements for the post-2020 Cap-and-Trade Program. Board Resolution 17-21 directed the Executive Officer to initiate this rulemaking process. The result is the current amendment process, which has been informed by informal workshops on October 12, 2017, March 2, 2018, April 26, 2018, and June 21, 2018, each of which also included a public comment period.[8]

[8] For more information, workshop comments, presentations and other materials can be found on the Cap-and-Trade website at https://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm.

- In January 2018, CARB staff proposed a narrow set of amendments to the Regulation to ensure that the responsibility to meet compliance obligations is transferred to new owners along with assets during an ownership change process. The amendments also clarified the regulatory procedure for establishing the Auction Reserve Price by ensuring consistency with the procedure for establishing the Auction Reserve Price in the Ontario and Québec regulations, and ensure that California can certify joint auctions regardless of which jurisdiction's Auction Reserve Price is used for a joint auction. The Board approved these amendments on March 22, 2018, and they went into effect on May 30, 2018.

Pursuant to AB 398, CARB must conduct additional evaluations and propose further amendments to the regulation that will take effect by January 1, 2021 regarding a price ceiling, new post-2020 Reserve tiers, and lower quantitative offset usage limits, among other requirements. CARB intends to complete the AB 398-specified revisions to the Regulation by the end of the first quarter of 2019, with an expected effective date of April 1, 2019. Board Resolution 17-21 (CARB 2017b), which adopted the amendments to the Cap-and-Trade Regulation that took effect on October 1, 2017, directed CARB's Executive Officer to initiate a new rulemaking process to implement the AB 398 requirements. To conform to AB 398 and respond to Board Resolution 17-21, CARB staff are proposing this set of amendments to the Cap-and-Trade Regulation, which are informed by informal workshops held October 12, 2017, March 2, 2018, April 26, 2018, and June 21, 2018, each of which also included an opportunity to provide written comments during an informal public comment period.[9]

3. Western Climate Initiative and Linkage with Other Jurisdictions

California, Québec, and Ontario are members of WCI, a collaboration among states and provinces that was initiated in 2007 to address climate change at a regional level. Within WCI, the three jurisdictions collaborated on the development of cap-and-trade program-design recommendations, providing a roadmap for program design and harmonization. California's Cap-and-Trade Regulation was developed concurrently with the WCI design documents that provide a template for a regional cap-and-trade program. The similar design features and minimum stringency requirements drawn from the WCI process facilitate linkage among the California, Québec, and Ontario programs.

The California Cap-and-Trade Program is currently linked with the cap-and-trade programs in the Canadian provinces of Québec and Ontario. The economic advantages of linking with other jurisdictions are analogous to the benefits of including multiple sectors under a broad California Cap-and-Trade Program. Increasing the number of covered sources expands opportunities for low-cost emissions reductions, thus reducing the overall cost of reductions, and it improves the efficiency and liquidity of the carbon market.

[9] For more information, workshop comments, presentations and other materials can be found on the Cap-and-Trade website at https://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm.

Senate Bill 1018 (SB 1018; Chapter 39, Statutes of 2012) requires that the Governor make four findings prior to linking the California Program with other jurisdictions. Under SB 1018, the Governor must find that the linked program:

- Has requirements that are equivalent to, or stricter than, the California Program;
- Will allow for continued enforceability of AB 32 and related statutes;
- Is fully enforceable within its own jurisdiction; and
- Does not impose liability on California.

Governor Brown made these four findings for linkage with Québec and Ontario, confirming the relative stringency of the programs. Recent political and regulatory changes in the government of Ontario have resulted in Ontario formally revoking its cap-and-trade program as of July 3, 2018. These changes result in an Ontario program that no longer meets the stringency and equivalency requirements of SB 1018. Additionally, Ontario's revocation of its cap-and-trade program effectively nullifies linkage with the remaining California and Québec market. Based on these changes, the Proposed Amendments propose to delink with Ontario's program. These changes are described further in the next section of this ISOR.

To ensure continued harmonization with linked programs, CARB has consulted with Québec and Ontario on the proposed amendments and will continue to coordinate with Québec to ensure the smooth functioning of the linked Program, consistent with the requirements in SB 1018.

C. Public Process for the Proposed Amendments

The proposed amendments build upon the Regulation that is currently in force, including all previous amendments approved by the Board. The public process for the proposed amendments began with a kickoff workshop on October 12, 2017, and a total of four publicly noticed workshops were held from October 2017 through June 2018. In addition, CARB staff held numerous informal meetings with stakeholders to discuss specific topics related to the proposed amendments. These forums provided CARB staff and stakeholders opportunities to present and discuss initial regulatory language and concepts, and potential alternatives. The workshops and meetings allowed CARB staff to consider stakeholder feedback and to incorporate it into the proposed amendments, as appropriate. CARB staff will continue to consider stakeholder feedback throughout the regulatory adoption process, including up to the adoption of the final regulation.

The four publicly noticed workshops at which CARB staff gave presentations on specific amendment topics and solicited comments and feedback from affected stakeholders were held as follows:

• Oct. 12, 2017: A "Kickoff Workshop on Next Steps for the Post-2020 Cap-and-Trade Regulation" introduced possible revisions to the Regulation in response to AB 398 and

Board Resolution 17-21, as well as other possible changes. Representatives of Québec and Ontario also presented updates and took questions on their respective programs.

• March 2, 2018: A "Workshop to Discuss Possible Revisions to the Cap-and-Trade Regulation" presented potential revisions to the Regulation in more detail. In advance of this workshop, staff provided a Preliminary Discussion Draft of possible changes to regulatory text and a Price Containment Concept Paper that presented and discussed options for establishing the price ceiling and new post-2020 Reserve tiers. In addition, a representative from the California Independent System Operator (CAISO) presented a draft proposal for calculating GHG emissions from the EIM.

• April 26, 2018: A "Workshop to Discuss Possible Revisions to the Cap-and-Trade Regulation" presented further information on potential amendment concepts. Prior to this workshop, staff released two documents to facilitate public discussion: Supporting Material for Assessment of Post-2020 Caps, which assessed unused allowances per AB 398, and Summary of Stakeholder Workshop Comments, which summarized stakeholder feedback on material presented in conjunction with the March 2 workshop.

• June 21, 2018: A "Workshop to Discuss Possible Revisions to the Cap-and-Trade Regulation" continued to summarize stakeholder comments on price containment concepts, offsets, and DEBS, continued the discussion on CARB's analysis of post-2020 "overallocation" and use of allowance value by EDUs and natural gas suppliers, and introduced some new proposed changes to the Regulation. Prior to this workshop, staff released a second Preliminary Discussion Draft with additional potential changes to the Regulation. CARB's presentation also addressed GHG accounting for the Energy Imbalance Market, and a representative of CAISO also presented on their related proposal and process.

Each of these workshops was announced approximately two weeks prior to its occurrence by posting a notice to the Cap-and-Trade Program public email service list, which has over 1,000 recipients. Each workshop was open to all members of the public and was also made available for participation via webcast. Workshop information and materials, along with written public comments that were submitted during the informal public comment period, are posted on the Cap-and-Trade Program's Public Meetings webpage.[10] Over 180 distinct comments were received in response to the workshops. All of the workshop materials, including presentations, are also included in Appendix E Public Process.

In addition, since January 1, 2018, staff participated in three legislative hearings related to the Cap-and-Trade Program and topics addressed in this rulemaking. Two hearings were held by the Joint Legislative Committee on Climate Change and one by the Senate Environmental Quality Committee.

[10] For more information, workshop comments, presentations and other materials can be found on the Cap-and-Trade website at https://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm.

Staff also conducted a Standardized Regulatory Impact Assessment (SRIA) as required by Senate Bill 617 (Chapter 496, Statutes of 2011) and received feedback and comments from the Department of Finance (DOF). Appendix C to this Staff Report is the updated SRIA as well as a summary of DOF comments on the SRIA and CARB's responses to those comments.

II. THE PROBLEM THAT THE PROPOSAL IS INTENDED TO ADDRESS

This chapter provides an overview of the proposed amendments to the Cap-and-Trade Regulation, a description of the problems that the proposed amendments are intended to address, and a description of how the proposed amendments resolve the problems. Descriptions of the underlying purpose and rationale for each proposed amendment are provided in Chapter III.

A. Description of Problems that this Proposal Is Intended to Address

Climate change is a serious environmental threat, and California is vulnerable to resource and economic impacts from climate change such as increased flooding and erosion due to rising sea levels, increased incidence and severity of wildfires, and diminished water resources from reduced mountain snowpack. It is important that California continues to reduce GHG emissions in order to decrease the probability and intensity of these impacts.

It is imperative that California continue to work to reduce GHG emissions in order to decrease the probability of these impacts. In 2005, Governor Schwarzenegger issued Executive Order S-3-05 (EO S-3-05), which set, among other things, targets of reducing statewide GHG emissions to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050. In 2006, California enacted AB 32 to address this public problem by requiring cost-effective reductions in GHG emissions and by codifying the 2020 target. AB 32 directed CARB to continue its leadership role on climate change and to develop a scoping plan identifying integrated and cost-effective regional, national, and international GHG reduction programs. In 2015, Governor Brown issued Executive Order B-30-15 (EO B-30-15), which set a goal of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030. In 2016, the Legislature passed, and Governor Brown signed, SB 32, which codified the 40 percent reduction goal from 1990 levels by 2030.

In July 2017, Governor Brown signed a legislative package clarifying the role of the Cap-and-Trade Program in achieving the 2030 GHG reduction target (AB 398; Chapter 135, Statutes of 2017) and establishing a new program to improve air quality in local communities (AB 617; Chapter 136, Statutes of 2017). The legislation helps ensure California continues to meet its ambitious climate change goals while addressing air pollution in communities with the dirtiest air.

AB 398 requires CARB to establish and implement several new Program features for the post-2020 period. It directs CARB to include the cost-containment features of a

price ceiling and price containment points, including a mechanism for offering additional metric tons at the price ceiling if reductions are needed for compliance. AB 398 also requires CARB to set new quantitative offset usage limits and establishes a new requirement that no more than one-half of the quantitative offset usage limit may be sourced from projects that do not provide "direct environmental benefits in the state" (DEBS). The proposed amendments specify these new quantitative offset usage limits, define DEBS, and propose a process for establishing whether an offset project meets DEBS requirements. Finally, AB 398 specifies that assistance factors used in calculating the free allowance allocation to all industrial covered entities be set at 100 percent in the post-2020 period, and the proposed amendments include that provision.

Board Resolution 17-21 directed the Executive Officer to initiate this rulemaking process to make the Cap-and-Trade Regulation consistent with AB 398. It also directs staff to provide transition assistance and provide additional allowances to minimize emissions leakage for certain sectors, evaluate and propose new alternative post-2020 cap adjustment factors for certain sectors, revise 2018 through 2020 assistance factors to be 100 percent, and establish a process to assess compliance obligations for GHG emissions in the EIM. The proposed amendments make these revisions requested by the Board, all of which are intended to effectuate AB 32.

Finally, with several years of successful Program implementation experience, CARB staff and regulated entities have identified opportunities to improve and/or streamline and clarify elements of the Program. The proposed amendments update existing provisions to ensure appropriate allowance allocation to covered entities and potential new entrants, clarify allowed use of allocated allowance value, and make other changes to streamline and clarify system registration, auction processes, and the compliance offset program. And, the proposed amendments would modify provisions related to linkage with the Ontario cap-and-trade program in light of recent political and regulatory changes in the government of Ontario related to revoking its cap-and-trade program as of July 3, 2018. Based on these changes, the proposed amendments will propose to de-link from Ontario's program.

B. Proposed Solutions to the Problems

The proposed amendments would align the Regulation with requirements of AB 398, respond to Board direction from Board Resolution 17-21 (BR 17-21) that relates to effectuating the purposes of AB 32, and make other changes to improve and clarify the Regulation. Proposed changes have been evaluated to ensure they allow for continued successful implementation of the California and Québec linked market. Table 1 lists the main proposed changes and sources that provide guidance or more information on each revision, as applicable.

Table 1. Listing of Proposed Amendments.

Category	Revision	Rationale for Revision
Cost Containment Post-2020	Establish a price ceiling	AB 398
Cost Containment Post-2020	Implement a price ceiling by directing allowances to the price ceiling and creating a mechanism for offering additional metric tons at the price ceiling if additional reductions are needed for compliance	AB 398
Cost Containment Post-2020	Establish new post-2020 Reserve tiers at levels below the price ceiling	AB 398
Distribution of Allowances Remaining Unsold for More than 24 Months	Clarify the process for directing unsold allowances to the Allowance Price Containment Reserve	AB 398 and clarify and/or improve Regulation
Offsets and Offset Program Implementation	Establish new quantitative offset usage limits for data years 2021 to 2030	AB 398
Offsets and Offset Program Implementation	Establish a definition and process for meeting “direct environmental benefits in the State” requirements for offsets surrendered for compliance for covered emissions from 2021 to 2030	AB 398
Offsets and Offset Program Implementation	Clarify definitions and procedural aspects of the compliance offset program	Clarify and/or improve Regulation
Allowance Allocation	Provide allowance allocation for transition assistance to legacy contract generators with non-industrial counterparties	BR 17-21
Allowance Allocation	Provide allowance allocation for transition assistance to waste-to-energy facilities covered by the Regulation beginning in 2018	BR 17-21 and staff analysis
Allowance Allocation	Set post-2020 cap adjustment factors for sectors that have activities with over 50 percent of total emissions from process emissions, high emissions intensity, and a high leakage risk classification	BR 17-21 and staff analysis

Category	Revision	Rationale for Revision
Allowance Allocation	Revise 2018 through 2020 assistance factors to be the same as the assistance factors in place from 2013 through 2017 and post-2020	BR 17-21 and staff analysis
Allowance Allocation	Set post-2020 industry assistance factors for allowance allocation at 100 percent	AB 398
Allowance Allocation	Clarify how value allocated to EDUs and natural gas suppliers can best be utilized to encourage emissions reductions and protect ratepayers	Clarify and/or improve Regulation
Allowance Allocation	Clarify application of the 10-year limit on use of allowance value by EDUs and natural gas suppliers	Clarify and/or improve Regulation
Allowance Allocation	Revise allowance allocation procedures to create a true-up mechanism for energy-based allocation in response to the 2018-2020 assistance factor revision; add process emissions to the energy-based allocation methodology, and add the activity “Nitrogenous Fertilizer Manufacturing” and “Lime Manufacturing” to allow allowance allocation	Clarify and/or improve Regulation
Electricity Sector	Establish a process to align GHG accounting for the EIM	Clarify and/or improve Regulation
Electricity Sector	Clarify the Voluntary Renewable Energy requirements	Clarify and/or improve Regulation
Registration in CITSS/Auction and Reserve Sale Administration	Clarify and update “Know Your Customer” procedures, CITSS registration requirements, and auction processes and procedures	Clarify and/or improve Regulation
Program Administration	Add a mechanism reserving allowances to cover bankruptcies	Clarify and/or improve Regulation
Program Administration	Clarify who can use compliance instruments issued by the Cap-and-Trade Program	Clarify and/or improve Regulation

Category	Revision	Rationale for Revision
Program Administration	Improve clarity of provisions containing expired limited exemptions	Clarify and/or improve Regulation
Ontario Linkage	Clarify auction and linkage provisions per Ontario revoking their cap-and-trade program, and delink from Ontario program	Clarify and/or improve Regulation

AB 398 also directed CARB to address concerns related to possible "overallocation" for the years 2021 to 2030 and to establish allowance banking rules that discourage speculation, avoid financial windfalls, and minimize volatility. CARB has analyzed and sought public comment on these issues through four informal public workshops leading up to this formal amendment process. As a result of this process, staff has found that for these items there is no need to make specific changes to the Regulation. The "Other Assessments" section below describes this further, and references a more detailed staff analysis of each of these items in Appendix D of this ISOR.

1. Cost Containment Post-2020

Cost containment is a key consideration in the design of the Cap-and-Trade Program. Key elements of the Program have been designed to optimize cost-effectiveness, including: (1) multi-year compliance periods, which smooth year-to-year variations in emissions levels; (2) allowance banking, which allows participants to hold allowances and use them for compliance in a later period; (3) offsets, which offer additional low-cost emissions reduction opportunities; and (4) the establishment of an Allowance Price Containment Reserve (Reserve), which allows covered entities access to allowances at set prices as a hedge against higher costs. A key consideration in designing these cost containment mechanisms is reducing compliance costs without compromising the environmental goals of the Program. Cost containment is also important to minimize price volatility, and provide market stability in the case of strong surges in short term demand to meet immediate compliance needs. Specifically, the prices at which allowances in the Reserve are available to market participants enforce upper bounds on potential allowance values, and do not represent expected long-term compliance costs.

AB 398 provides legislative direction to CARB in order to strengthen key cost containment features of the Cap-and-Trade Program post-2020. In response to AB 398's direction, the proposed amendments will maintain the ability of the Program to deliver the necessary GHG emission reductions to help achieve the state's GHG reduction targets while ensuring robust cost containment through the creation of a price ceiling.

This discussion of the proposed amendments for post-2020 cost containment is organized as follows:

- Background on the related price containment mechanisms in the current Regulation, both for the pre- and post-2020 periods of the Program.

- A description of the proposed amendments, beginning with the price and structure of the new post-2020 Reserve and price ceiling, and how the proposed amendments are consistent with AB 398.
- A description of the distribution of allowances among the new price containment points, also referred to as the new post-2020 Reserve tiers, as well as changes to the distribution of allowances.
- An explanation of how the proposed new system would operate.

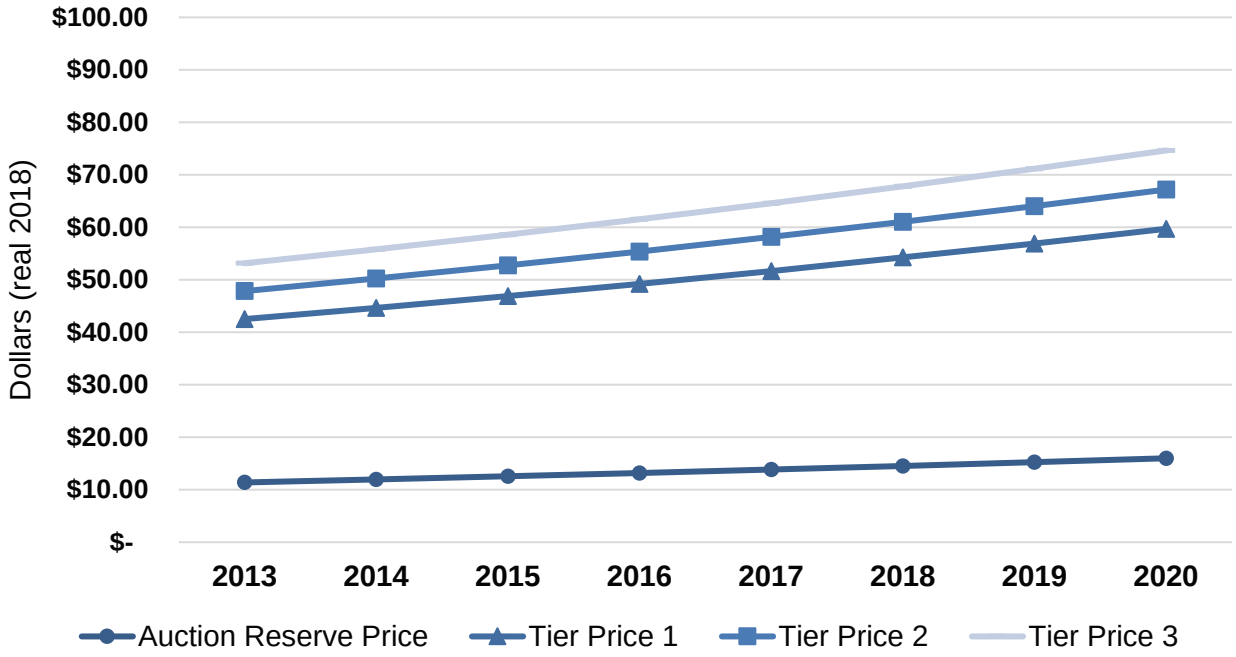
a. Background – Pre-2021 Reserve in Current Regulation

The Reserve from 2013-2020 (current "Reserve") contains California-issued allowances that are available for purchase by California covered entities at four scheduled Reserve sales each year. This mechanism was filled with a specified number of allowances removed from the overall cap at the beginning of the Program. At each Reserve sale, covered entities may purchase Reserve allowances at specified prices. To date, no quarterly Reserve sales have been held as none were requested by covered entities.

Allowances in the current Reserve are equally distributed among three Reserve tiers, with a different price for each tier. The tier prices were set at $40, $45, and $50 in 2013. Each year, the price for each tier escalates at 5 percent plus inflation. As prices steadily increase over time, regulated entities will be prompted to take additional actions to reduce GHG emissions and help to achieve the 2020 (AB 32) and 2030 (SB 32) targets.

Figure A provides a graph of the Auction Reserve Price and the current Reserve tiers. The distance between the Reserve tiers is notable and spacing between Reserve tiers is discussed later in the context of the proposed amendments.

Figure A. Existing Reserve Prices 2013 through 2020



CARB funded the current Reserve by moving four percent of the annual allowance budgets between 2013 through 2020 to the current Reserve. There was a recognition in the design of the Regulation that funding the Reserve from allowances under the cap with no other Program adjustments would have resulted in a smaller remaining allowance budget, raising the price of allowances.

The smaller allowance budget would have increased the stringency of the Program and the allowance Reserve would have increased costs under anticipated conditions, rather than helping control costs. To address this, the limit on the use of offsets was increased from an initially proposed 4 percent to 8 percent in the Regulation as adopted by the Board in 2011. By allowing an expansion in offset usage equivalent to the percentage of allowances allocated to the current Reserve, the stringency of the Program remained unchanged from when there was originally a 4 percent limit.

Under the existing Regulation, if the top (third) tier of the current Reserve is depleted, CARB may offer for sale, at the last Reserve sale before a compliance event, allowances from future allowance budget years that are not already allocated to the Reserve. The number of allowances that may be borrowed from future budget years is equal to 10 percent of each future budget year's annual allowance budget. Additional detail on the design and considerations for the current Reserve are provided in Appendix G of the 2010 Regulation.[11] (CARB 2010b)

[11] For more information, Appendix G of the 2010 Cap-and-Trade Regulation can be found at the following link: https://www.arb.ca.gov/regact/2010/capandtrade10/capv3appg.pdf.

b. Background – Post-2020 Reserve in Current Regulation

The regulatory amendments approved in 2017 (current Regulation) changed the structure of the Reserve beginning in 2021 by consolidating the three tiers into a single tier ("post-2020 Reserve"), with all allowances in the single post-2020 Reserve tier sold at a single price.

The 2021 value of the single post-2020 Reserve tier was set based on the price the third tier of the current Reserve would have reached in 2021. After 2021, the post-2020 Reserve was scheduled to maintain a fixed distance above the Auction Reserve Price. That is, the gap between the post-2020 Reserve price and Auction Reserve Price would have maintained the fixed real dollar difference originally calculated in 2021, adjusting for inflation. This fixed dollar difference can be seen in Figure B.

Figure B. Current Regulation's Reserve Prices 2021 through 2030

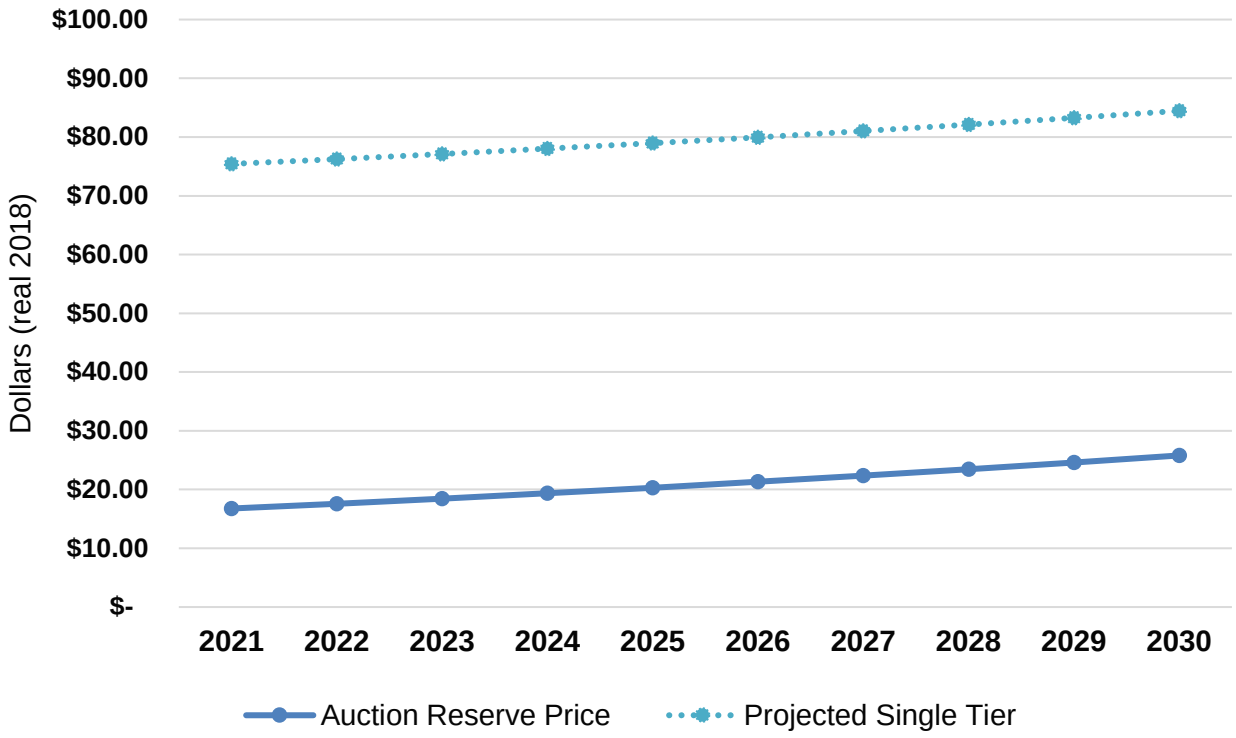


Table 2 contains the post-2020 Auction Reserve Price and post-2020 Reserve price in the current Regulation.

Table 2. Estimated Post-2020 Auction Reserve Prices and Reserve Prices

Year	Auction Reserve Price	Post-2020 Reserve (Single Tier)	Single Tier minus Auction Reserve Price
	($2018)		
2021	$16.77	$75.43	$58.65
2025	$20.31	$78.97	$58.65
2030	$25.80	$84.46	$58.65

Table 3 identifies the number of instruments contained in the current Reserve tiers and in the post-2020 Reserve beginning in 2021, under the assumption that there are no allowances sold from Reserve sales through 2020. Both the current Reserve and post-2020 Reserve allowance volumes also include an estimated 39 million allowances that staff anticipates is the minimum that may be placed into the Reserve under the current Regulation's unsold allowance provision by the end of 2020. This estimate constitutes a lower bound; the number could be revised upward if auctions are undersubscribed in 2018 and 2019. The post-2020 Reserve volume is also augmented by the 52.4 million post-2020 vintage allowances designated to be placed into cost containment under the current Regulation.

Table 3. Current Regulation Distribution of Allowances

Tier	Current Reserve (through 2020)	Post-2020 Reserve (Single Tier)
	(millions)	
1	53.6[a]	213.2[b]
2	53.6[a]	
3	53.6[a]	
Total Allowances	160.8	213.2[b]

[a] Includes an estimated 39M (divided equally in each tier) pre-2021 allowances that currently remain unsold at auction for greater than 24 months.
[b] Includes addition of 52.4M allowances designated to the Reserve by the existing Regulation starting in 2021.
Source: CARB staff estimates

c. Setting the Price Ceiling and New Post-2020 Reserve Tier Prices in Response to AB 398

AB 398 gives CARB specific criteria on establishing the price trajectory of staff's proposed price ceiling by requiring that certain considerations be taken into account in doing so. CARB staff notes that in establishing the price ceiling, staff does not expect that allowance prices would reach that value, nor that a price ceiling is a feature that should be accessed in the operation of the Program. The related AB 398 language is presented below.

Health & Safety Code § 38562(c)(2)(A)(i)(I-VI): "*Establish a price ceiling. In establishing the price ceiling, the state board shall consider, using the best available science, all of the following:*

- *The need to avoid adverse impacts on resident households, businesses, and the state's economy.*
- *The 2020 tier prices of the allowance price containment reserve.*
- *The full social cost associated with emitting a metric ton greenhouse gases.*
- *The auction reserve price.*
- *The potential for environmental and economic leakage.*
- *The cost per metric ton of greenhouse gas emissions reductions to achieve the statewide emissions targets established in Sections 38550 and 38566.*"

For the new post-2020 Reserve tiers, AB 398 directs CARB to "[e]*stablish two price containment points* [new post-2020 Reserve tiers] *at levels below the price ceiling. (*Health & Safety Code § 38562(c)(2)(B))*"* but does not provide specific guidance on exact price levels.

Staff proposes the following price features in the proposed amendments for the price ceiling and new post-2020 Reserve tiers:

- A $65 price ceiling value in 2021 (approximately $61 in real 2018 dollars).
- The first new post-2020 Reserve tier price fixed at the halfway point of the Auction Reserve Price and price ceiling in all years (starting in 2021).
- The second new post-2020 Reserve tier price fixed at the three-quarter point of the Auction Reserve Price and the price ceiling in all years (starting in 2021).
- Retaining the current Reserve's real escalation factor of 5 percent adjusted for inflation.

Figure C shows the resulting price trajectories in real 2018 dollars. The figure depicts the current Reserve tiers between 2018-2020, and extends those three points into the proposed new-post-2020 tiers and price ceiling for ease of comparison. The proposed price ceiling and two new-post-2020 Reserve tiers are significantly lower relative to the post-2020 Reserve tier in 2021, and the 2021 proposed values are well below the current Reserve tier prices in 2020. The figure also shows that the proposed price ceiling would be below the single tier post-2020 Reserve value until 2026, at which time it increases slightly above the single tier post-2020 Reserve price from 2027 until 2030. The proposed new post-2020 Reserve tiers would remain below the single tier post-2020 Reserve throughout the 2020s. Finally, relative to each other, the Reserve tiers and price ceiling are spaced further apart than under the existing Regulation.

Figure C. Proposed Price Structure for New Post-2020 Reserve and Price Ceiling

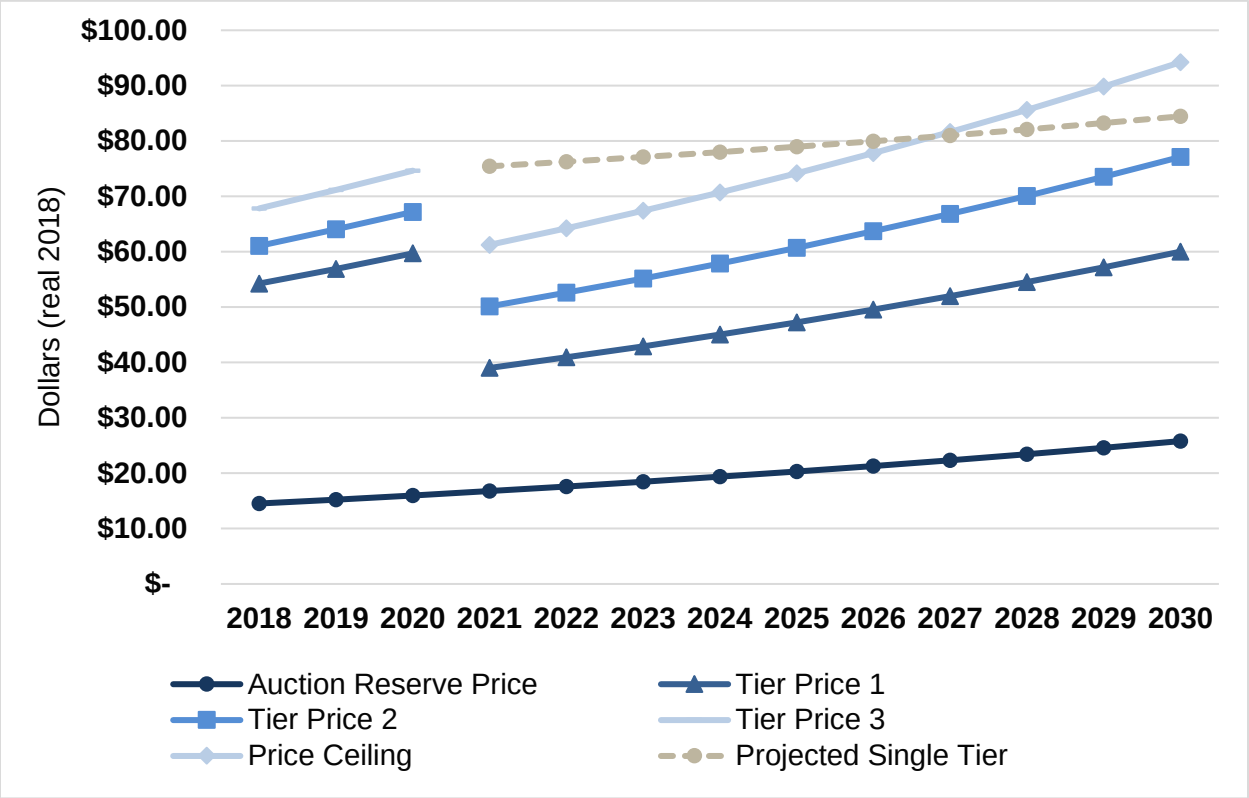


Table 4 presents the proposed new post-2020 Reserve tier and price ceiling prices for 2021 in real 2018 dollars ($2018). The proposed amendments themselves set the price ceiling value for 2021 at $65 (i.e., $65 in real 2021 dollars), and specify that this value will be escalated each year by 5 percent plus the rate of inflation.

Table 4. Proposed New Post-2020 Reserve Tier Prices and Price Ceiling ($2018)

Year	Auction Reserve Price	Tier Price 1	Tier Price 2	Price Ceiling
2021	$ 16.77	$ 39.01	$ 50.13	$ 61.25

d. Staff's Proposed Price Ceiling is Consistent with AB 398 Legislative Direction

The following discussion evaluates the proposed establishment of the price ceiling in the context of the AB 398 criteria, which is presented as the heading for each section below.

The need to avoid adverse impacts on resident households, businesses, and the state's economy" and "[t]*he potential for environmental and economic leakage.*

In the development of the 2017 Climate Change Scoping Plan (2017 Scoping Plan),[12] a suite of policies that included a Cap-and-Trade Program was found to be the most cost-effective path to achieve the 2030 target, with the least estimated impacts to the

[12] *See* https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

economy, jobs, and households. Incorporating the Cap-and-Trade Program into the adopted Scoping Plan scenario was found to be at least 4 times less costly than the Scoping Plan alternatives. The Cap-and-Trade Program achieves low cost GHG emissions reductions through combining an overall emissions limit that decreases each year, with economy-wide trading that provides businesses with flexibility in their approach to reducing emissions. By providing a direct incentive to identify low cost GHG reductions through economy-wide trading, the 2017 Scoping Plan with a Cap-and-Trade Program was found to have a 96 percent likelihood of achieving California's 2030 GHG target. Other alternatives that were considered, but rejected, were either less likely to achieve the 2030 target, or more expensive.[13] Two of these rejected alternatives were "No Cap-and-Trade" (over 4 times as expensive as the adopted Scoping Plan scenario)[14] that required significant additional measures with known implementation barriers, and "Cap-and-Tax" (at least 14 times as expensive as the adopted Scoping Plan scenario)[15] that required declining facility-specific emissions caps, forgoing the compliance flexibility of trading and offsets.

When evaluating impacts to residents, businesses, and the economy, it is important to remember that allowance costs in the Cap-and-Trade Program are dependent on the performance of other complementary policies. The Cap-and-Trade Program delivers emissions certainty alongside the benefits of other measures in the adopted Scoping Plan scenario. Table 5 shows the modelled impacts of the adopted Scoping Plan scenario (including Cap-and-Trade) that achieves the 2030 target, relative to existing policies that are only sufficient to achieve the 2020 emissions target (called the Reference Scenario). The results omit avoided social damages, potential savings from reductions in air pollution, and as stated in the 2017 Scoping Plan, almost certainly overstate costs: innovation will continue to develop new technologies that can be implemented to increase the cost effectiveness of meeting the 2030 target. While Table 5 projects the costs and GHG reductions of current technologies over time, it does not capture the impact of new technologies that may shift the economy and California in unanticipated ways or benefits related to changes in air pollution and improvements to human health, avoided environmental damages, and positive impacts to natural and working lands. Thus, the results of this analysis very likely underestimate the benefits of shifting to a clean energy economy.

[13] *See* https://www.arb.ca.gov/cc/scopingplan/2017sp_factsheet.pdf.
[14] *See* https://www.arb.ca.gov/cc/scopingplan/2030sp_appe_econ_final.pdf Table 13.
[15] Ibid. Table 13.

Table 5: Macroeconomic Indicators in 2030 (real 2018 dollars)[16]

	Reference Scenario (2030)	Scoping Plan (2030)	Percent Change Relative to Reference Scenario
California GDP (Billion $2018)	$3,628	$3,618 to $3,608	-0.3 percent to -0.6 percent
Employment (Thousand Jobs)	23,522	23,478 to 23,441	-0.2 percent to -0.3 percent
Personal Income (Billion $2018)	$3,175	$3,171 to $3,173	-0.1 percent to -0.1 percent

The Cap-and-Trade Program itself also has many features aimed at avoiding adverse impacts on resident households, businesses, and the state's economy. The Cap-and-Trade Program generates revenue when the allowances to emit pollution are auctioned. Some of the revenue is returned directly to electricity ratepayers in the form of a climate credit that compensates for the compliance cost of the Cap-and-Trade Program on their electricity bills. The rest is dedicated to reducing GHG emissions by making Legislatively-directed investments in California with an emphasis on programs or projects that benefit disadvantaged and low-income communities. The Program also allocates some free allowances to industrial entities to minimize emissions leakage.

Since 2014, the Legislature has appropriated $8 billion to reduce GHG emissions, reduce air pollutant emissions where reductions are needed most, grow markets for clean technologies, and spur emissions reductions in sectors not covered by Cap-and-Trade.[17] These projects are now underway throughout the state, including in nearly all (98 percent) of the state's disadvantaged communities.

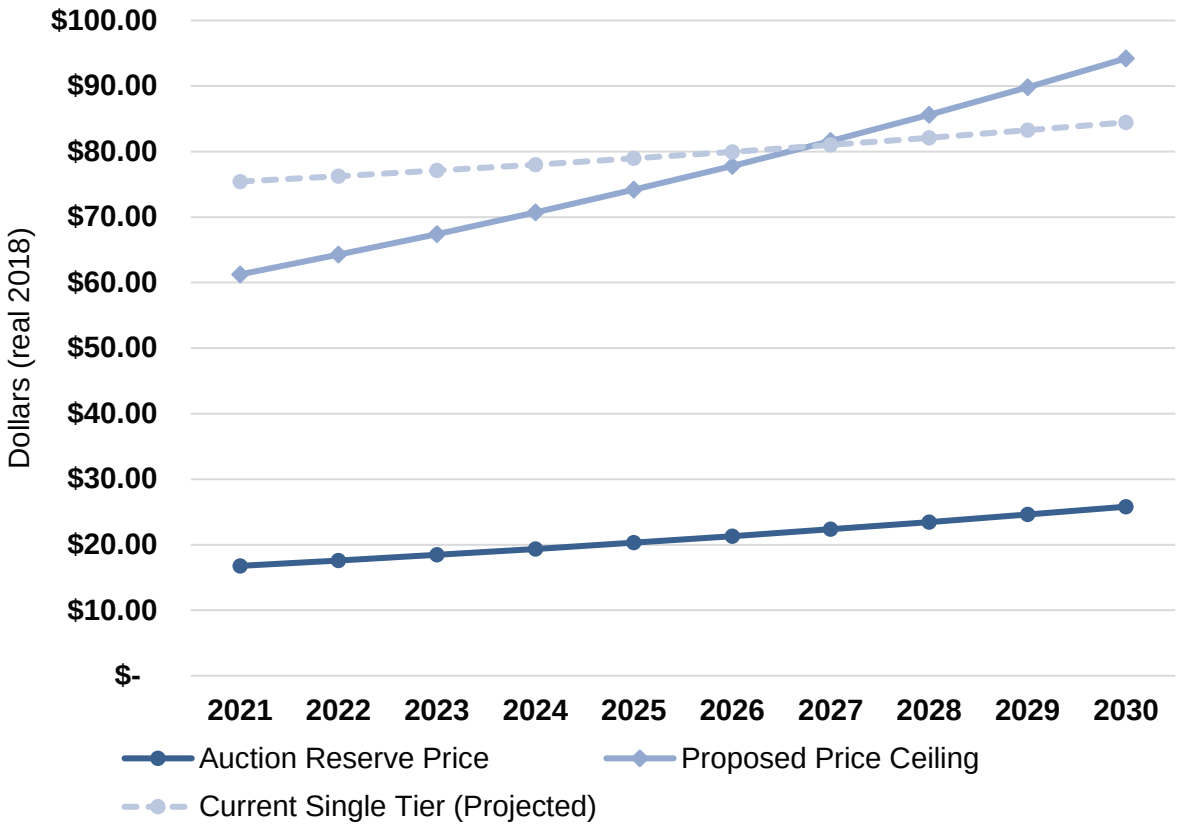
The Program also provides free allocation to industrial entities covered by the Program in proportion to industrial output to address potential trade exposure due to the cost of compliance with the Program and address concerns of relocation of production out-of-state and resulting emissions leakage, which may also be associated with relocation of associated jobs.

Avoiding adverse impacts on California's economy and avoiding leakage continue to be critical design objectives for the Cap-and-Trade Program and CARB staff continue to evaluate potential for emissions leakage and global trends in carbon pricing efforts. For instance, other subnational, national and international jurisdictions are expected to continue to make progress towards incorporating carbon pricing. (ICAP 2018.) In addition, during the early 2020s GHG reducing technologies are anticipated to be further deployed to reduce covered emissions. For example, the State's three largest

[16] *See* https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf "Table 15. Macroeconomic Indicators in 2030 Under Base Fuel Price Assumptions." Adjusted to 2018 dollars.
[17] *See* California Climate Investments website, available at http://www.caclimateinvestments.ca.gov/about-cci. Accessed August 21, 2018.

investor-owned utilities are on track to integrate 50 percent renewables for electricity generation by 2020, a decade earlier than required by the State's Renewable Portfolio Standard.[18] However, in advance of widespread carbon pricing and deployment of GHG reducing technologies, California businesses may be more sensitive to potential emissions leakage. This concern supports the selection of a price ceiling path below the single tier Reserve value in the early 2020s. The proposed $61 price ceiling in 2021 is approximately $14 less than the current Regulation's 2021 single tier Reserve price as shown in Figure D, while increasing at a faster rate than the existing single tier price.

Figure D: Proposed Price Ceiling and Current Single Tier Reserve Prices



The price ceiling cannot be set so low that covered entities' primary compliance strategy is to make substantial and continued use of the price ceiling units that would be made available for sale under the proposed amendments should allowances in the post-2020 Reserve tiers and price ceiling become exhausted (see Chapter II, section B, subsection 1.g below for more information regarding these price ceiling units). If the price ceiling were to be set at low levels that could encourage this compliance strategy throughout the 2020s, CARB would need to identify additional direct measures with which to meet AB 32 and SB 32 emissions reduction targets, moving towards implementing measures similar to Alternative 1 of the 2017 Scoping Plan. In the case

[18] *See* https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017_es.pdf.

of unexpected growth in business-as-usual emissions (e.g., due to an economic boom), cost containment cannot serve as a permanent fund of low cost compliance instruments with which to meet compliance obligations. Instead, the entire Cap-and-Trade Program is designed to minimize emissions leakage and avoid adverse impacts to households while sending a sufficient carbon price signal to prompt the emissions reductions necessary to meet AB 32 and SB 32 emissions goals.

The 2020 tier prices of the allowance price containment reserve.

Staff designed the proposed amendments to help maintain continuity with the cost containment design features that have helped inform market participants' expectations since the adoption of the Cap-and-Trade Regulation in 2011, including the 2020 tier prices of the current Reserve.

The third tier of the current Reserve has helped to set covered entity expectations of the realistic upper bound in potential allowance values under the existing Regulation from 2013 through 2020. The range of allowance values between the Auction Reserve Price and the third tier of the current Reserve has formed a window for covered entities of expected potential allowance values with which to make long-term plans for GHG reduction investments. In 2020, this window will be the range of allowance values between approximately $16.00 (the 2020 Auction Reserve Price) and $74.64 (the third tier of the current Reserve in 2020) in real 2018 dollars.

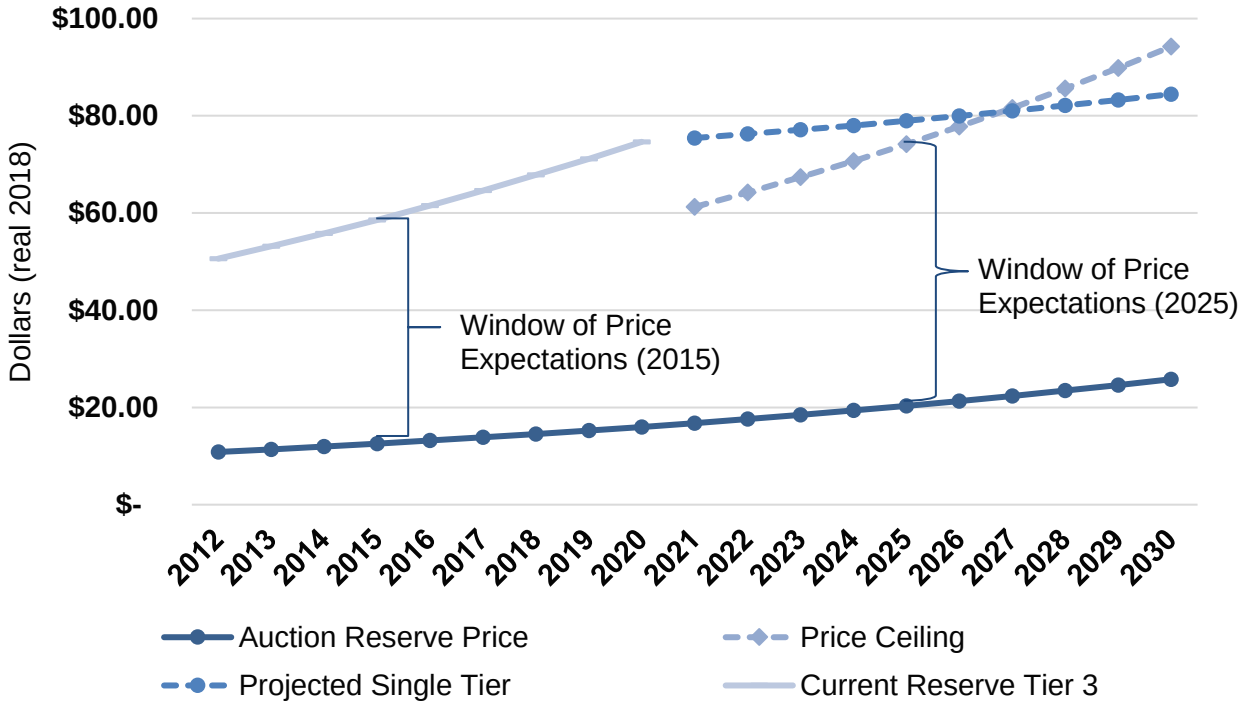
The 2016 regulatory amendments that were adopted in 2017, provided a framework for the post-2020 period of the Regulation and extended the upper bound of price expectations. As part of that rulemaking, the cost containment system was modified through implementation of the single Reserve tier price. Under the current Regulation, in 2021, all of the allowances in the Reserve would be placed into a single Reserve tier. The price for that tier would then increase annually by the same amount as the Auction Reserve Price, so the difference would be constant in real dollars. This helped inform the market of maximum possible allowance values for the post-2020 time period.

To maintain continuity for entities' assessments of the value of GHG reduction investments, staff set the proposed price ceiling at a level that roughly maintains the "window" that would have been provided by the single Reserve tier above the Auction Reserve Price. The price ceiling's values now form a new upper bound that is not significantly different from the price level of the upper bound of the single tier during the post-2020 time period (the single tier is slightly above the price ceiling in the early 2020s, and slightly below the price ceiling in the late 2020s). Figure E shows the 2020 value of the third tier of the current Reserve ($74.64), followed by the current Regulation's single tier beginning in 2021, and then staff's proposed price ceiling which would replace the single Reserve tier in 2021.

Figure E also illustrates the concept of a window of market price expectations, showing the likely window entities considered for 2015 and the approximate window entities are expecting for 2025. It is important to reiterate that the price ceiling will form an upper

bound on *potential* allowance value expectations, and is not the expected allowance value. The proposed price ceiling is presented for reference in Figure E.

Figure E: Extending the Existing Price Signals



Maintaining continuity of expectations is also important because some covered entities have already taken early action to reduce GHGs. Setting the price ceiling at a level significantly below the third tier of the current Reserve and single tier post-2020 Reserve price would create a precedent of devaluing early action. Covered entities' future expectations of the full range of potential allowance values, as well as their expected potential rate of return for their GHG reduction investments, would be undercut by anticipation of the potential for future regulatory revisions that might significantly decrease the price ceiling.

The full social cost associated with emitting a metric ton greenhouse gases.

AB 398 also directs CARB to consider the social cost of carbon (SC-CO_2) in developing the price ceiling in the proposed amendments. As stated in the 2017 Scoping Plan, social costs are generally defined as the cost of an action on people, the environment, or society and are widely used to evaluate the impact of regulatory actions. Social costs do not represent the cost of abatement or the cost of GHG reductions, rather social costs estimate the harm that is avoided by reducing GHGs.

Since 2008, federal agencies have been incorporating the social costs of GHGs, including carbon dioxide, methane, and nitrous oxide into the analysis of their regulatory actions. Agencies including the U.S. Environmental Protection Agency (U.S. EPA), Department of Transportation (DOT), and Department of Energy (DOE) are subject to

Executive Order 12866, which directs agencies "to assess both the costs and benefits of the intended regulation…"[19] In 2007, the National Highway Transportation Safety Administration (NHTSA) was directed by the U.S. 9th Circuit Court of Appeals to include SC-CO_2 in a regulatory impact analysis for a vehicle fuel economy rule. The Court stated that "[w]hile the record shows that there is a range of values, the value of carbon emissions reduction is certainly not zero."

In 2009, the Council of Economic Advisors and the Office of Management and Budget convened the Interagency Working Group on the Social Cost of Greenhouse Gases[20] (IWG) to develop a methodology for estimating SC-CO_2. This methodology relied on a standardized range of assumptions and could be used consistently when estimating the benefits of regulations across agencies and around the world. The IWG, comprised of scientific and economic experts, recommended the use of SC-CO_2 values based on three integrated assessment models (IAMs) developed over decades of global peer-reviewed research.[21]

The IWG describes SC-CO_2 as follows:

> The social cost of carbon (SC-CO_2) for a given year is an estimate, in dollars, of the present discounted value of the future damage caused by a 1-metric ton increase in carbon dioxide (CO_2) emissions into the atmosphere in that year, or equivalently, the benefits of reducing CO_2 emissions by the same amount in that year. The SC-CO_2 is intended to provide a comprehensive measure of the net damages – that is, the monetized value of the net impacts – from global climate change that result from an additional ton of CO_2.

These damages include, but are not limited to, changes in net agricultural productivity, energy use, human health, property damage from increased flood risk, as well as nonmarket damages, such as the services that natural ecosystems provide to society. Many of these damages from CO_2 emissions today will affect economic outcomes throughout the next several centuries.[22]

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[19] *See* https://www.reginfo.gov/public/jsp/Utilities/EO_12866.pdf.

[20] Originally titled the Interagency Working Group on the Social Cost of Carbon, the IWG was renamed in 2016.

[21] Additional technical detail on the IWG process is available in the Technical Updates of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866. Iterations of the Updates are available at: https://obamawhitehouse.archives.gov/ sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf, https://obamawhitehouse.archives.gov/sites/ default/files/omb/inforeg/scc-tsd-final-july-2015.pdf, and https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf.

[22] From The National Academies, Valuing the Social Cost of Carbon Dioxide, 2017, available at: http://www.nap.edu/24651.

Table 6 presents the range of IWG SC-CO_2 values used in regulatory assessments, including the 2017 Scoping Plan, and staff's consideration of where to set the price ceiling.[23]

Table 6. Social Cost of Carbon (Real 2018 dollars)

Year	5 Percent Discount Rate	3 Percent Discount Rate	2.5 Percent Discount Rate
2015	$13.26	$43.41	$67.53
2020	$14.47	$50.65	$74.76
2025	$16.88	$55.47	$82.00
2030	$19.29	$60.29	$88.03

The SC-CO_2 is year specific; that is, the IAMs estimate the environmental damages from a given year in the future and discount the value of the damages back to the present. For example, the SC-CO_2 for the year 2030 represents the value of climate change damages from a release of CO_2 in 2030 discounted back to today.

The SC-CO_2 increases over time as systems become stressed from the aggregate impacts of climate change and future emissions cause incrementally larger damages. Table 6 presents the SC-CO_2 across a range of discount rates – or the value today of preventing environmental damages in the future. A higher discount rate decreases the value placed on future environmental damages. Staff utilized the IWG standardized range of discount rates, from 2.5 to 5 percent, in order to develop the price ceiling in the proposed amendments.

The IWG estimates the SC-CO_2 across a range of discount rates that encompass a variety of assumptions regarding the correlation between climate damages and consumption of goods and is consistent with OMB's Circular A-4 guidance.[24] The SC-CO_2 is highly sensitive to the discount rate. Higher discount rates decrease the value today of future environmental damages. The value today of environmental damages in 2030 is higher under the 2.5 percent discount rate compared to the 3 or 5 percent discount rate, reflecting the trade-off of consumption today and future damages. This Scoping Plan utilizes the IWG standardized range of discount rates, from 2.5 to 5 percent to represent varying valuation of future damages.

There is an active discussion within government and academia about the role of SC-CO_2 in assessing regulations, quantifying avoided climate damages, and the values themselves. In January 2017, responding to a request from IWG, the National Academies of Sciences, Engineering, and Medicine (NAS) released a report examining potential approaches for a comprehensive update to the SC-CO_2 methodology to

[23] SC-CO_2 values as of July 2015 are available at: https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc-tsd-final-july-2015.pdf.
[24] Academies, Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide, 2017, available at: www.nap.edu/24651.

ensure resulting cost estimates reflect the best available science. The NAS review did not modify the estimated values of the SC-CO2, but evaluated the models, assumptions, handling of uncertainty, and discounting used in the estimating of the SC-CO_2. The report recommends near-term improvements to the existing IWG SC-CO_2 as well as a long-term comprehensive updates.[25] The State will continue to follow updates to the IWG SC-CO_2, outlined in the NAS report, and incorporate appropriate peer-reviewed modifications to estimates based on the latest available data and science.

The IPCC has stated that the IWG SC-CO_2 estimates are likely underestimated due to the omission of significant impacts that cannot be accurately monetized, including important physical, ecological, and economic impacts.[26] These omitted damages include the risk of increased flooding, the impacts on labor productivity from extreme heat, increased ozone pollution and wildfire smoke, and the impact of potential migration.[27] Improving estimation methods and incorporating recent research will increase future estimates of the SC-CO_2. For example, updating one of the main models used as the basis of the SC-CO_2 calculation results in SC-CO_2 values that are 92-137 percent higher (depending on the discount rate) than the values used in the 2017 Scoping Plan.[28] A different analysis suggests that updating the agricultural impacts model alone could more than double the total SC-CO_2.[29] As discussed in the March 2018 Workshop to Discuss Possible Revisions to the Cap-and-Trade Regulation, "an academic study from 2016 found that the existing SC-CO_2 is too low and could be closer to $220."[30] The State will continue to follow updates to the IWG SC-CO_2 and incorporate appropriate peer-reviewed modifications to estimates based on the latest available data and science.

It is important to note that the SC-CO_2, while intended to be a comprehensive estimate of the damages caused by carbon globally, does not represent the cumulative cost of climate change and air pollution to society. There are additional costs to society outside of the SC-CO_2, including costs associated with changes in co-pollutants, the social cost of other GHGs including methane and nitrous oxide, as well as costs that cannot be included due to modeling and data limitations. CARB will continue engaging with experts to evaluate the comprehensive California-specific impacts of climate change and air pollution.

At a 3 percent discount rate, the estimated SC-CO_2 is valued at a price of $50.65 per metric ton in 2020 increasing to $60.29 in 2030 (real 2018 dollars). Staff believes that a

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[25] The National Academies, Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide, 2017, available at: http://www.nap.edu/24651.
[26] *See* https://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch3s3-5-3-3.html.
[27] See Table 2. Damages Omitted from the [IAWG] SCC in http://policyintegrity.org/files/publications/SCC_State_Guidance.pdf.
[28] See Table 3. Estimates of SCC for 2020 from US IWG and comparison with DICE model in 2010 US$, http://www.pnas.org/content/114/7/1518. 2017 Scoping Plan values are similar to those in Table 6 but slightly different due to choice of years.
[29] See https://www.nature.com/articles/s41467-017-01792-x#Sec6.
[30] See https://www.nature.com/articles/nclimate2481#t1. See also https://www.arb.ca.gov/cc/capandtrade/meetings/20180302/ct_price_concept_paper.pdf.

price ceiling below the 2030 value of $60.29 would fail to recognize both SC-CO_2 and would also omit consideration of additional significant physical, ecological, and economic impacts of GHG emissions. Staff believes, however, that while new research indicates the SC-CO_2 may be much higher, even closer to $220, setting a price ceiling based on this research would be excessive relative to prices needed to achieve the 2030 target, and may be so high that it may lead to leakage and adverse impacts to the economy and households. Staff is proposing a price ceiling of $61 in 2021 (real 2018 dollars), which would escalate over time. This value captures the SC-CO_2 as established by IWG, but recognizes that value does not represent the "full" social cost of carbon.

The auction reserve price.

Staff's proposed price ceiling retains the 5 percent escalation factor of the current 2013 through 2020 Reserve and the Auction Reserve Price. As discussed in the section on consideration of the 2020 tier prices of the current Reserve, carrying forward the approximate gap between the first tier and the Auction Reserve Price retains a predictable increase in the window of allowance values against which covered entity's GHG reductions can be financially evaluated. This extension of the existing structure where the Auction Reserve Price and price ceiling values do not converge is consistent with how the Program has been designed since the very beginning. It maintains the price signal to ensure the lowest reductions are targeted, while allowing for price discovery across a consistent range for all periods of the Program across all covered sectors. Narrowing the range for potential allowance prices over time results in the Program operating more like a carbon tax and it limits abatement potential. The two new post-2020 Reserve tier prices were also set based on maintaining fixed distances between the Auction Reserve Price and price ceiling (half of the distance and three quarters of the distance for the first and second tier respectively). Maintaining the consistent escalation between the Auction Reserve Price and price ceiling allows for the two new post-2020 Reserve tiers to operate at a fixed distance between the two points. Otherwise, in later years, the two new post-2020 Reserve tiers will converge into the price ceiling, thereby negating the effectiveness of the Reserve price tiers to slow the acceleration of allowance prices.

The cost per metric ton of greenhouse gas emissions reductions to achieve the [2020 and 2030] statewide emissions [reductions] targets established in Sections 38550 and 38566.

In responding to AB 398, staff must balance the need for cost containment with the need for market prices to support GHG reduction activities to meet the 2020 and 2030 targets. In the unlikely event cost containment is triggered, sales from the new post-2020 Reserve or price ceiling preclude emissions reductions that are only cost effective at allowance values above the new post-2020 Reserve tier and price ceiling values. Thus, the price levels at which cost containment are set strikes a balance between being high enough to allow for a sufficient volume of reductions to occur to meet the 2020 and 2030 targets, and being low enough to meet the AB 398 objectives of

minimizing emissions leakage and minimizing adverse impacts to households, businesses, and the California economy.

The Cap-and-Trade Program interacts with the State's complementary GHG policies. If all measures perform exactly as modeled under the 2017 Scoping Plan, it is estimated that 62 percent of emissions reductions from 2021 through 2030 will be achieved through other policies and regulations outside of the Cap-and-Trade Program. Reductions achieved under these complementary policies will have associated costs – but those costs are largely independent of the Cap-and-Trade Program allowance price. The remaining reductions, 38 percent as modelled in the 2017 Scoping Plan, will come from emissions reductions within covered sectors via the Cap-and-Trade Program. Therefore, allowance values in the Cap-and-Trade Program depend, in part, on emissions reductions achieved by complementary policies. Staff reviewed evidence of abatement costs, including from supporting material for the Updated Economic Analysis of California's Climate Change Scoping Plan,[31] the Updated Economic Analysis of the WCI Regional Program,[32] and trading prices in the European Union Emissions Trading Scheme (EU ETS) as part of this evaluation.[33]

Cost containment cannot interfere with the Cap-and-Trade Program's ability to deliver the GHG reductions needed to achieve the statewide GHG reduction targets. The 2017 Scoping Plan's uncertainty analysis found that there is 96 percent likelihood that the adopted Scoping Plan scenario with the existing Cap-and-Trade Program will achieve the 2030 emissions target. The uncertainty analysis suggests the chance of success goes down significantly if entities are less responsive to allowance prices than modelled. Consequently, increasing the potential range of allowance values increases California's chances of meeting the necessary reductions. The proposed price ceiling slightly exceeds the current Regulation's Single Tier price from 2027 to 2030. Staff believe the proposed price ceiling will improve the likelihood of meeting the 2030 target, while addressing concerns of cost containment through a variety of other design features in the Program, such as the two Reserve tiers, banking, and multi-year compliance periods. Again, the price ceiling reflects the upper bound on potential allowance prices, rather than an expected allowance price. More details on CARB's analysis of the costs of the proposed amendments can be found in Appendix C: Standardized Regulatory Impacts Assessment and Chapter 8 of this ISOR.

e. Setting the New Post-2020 Reserve Tier Prices

Staff's proposed new post-2020 Reserve tier prices are set to counteract quick shifts in allowance values. The chosen prices allow the new post-2020 Reserve tiers to offer

[31] Updated Economic Analysis of California's Climate Change Scoping Plan: Staff Report to the Air Resources Board. March 24, 2010. http://www.arb.ca.gov/cc/scopingplan/economicssp/updated-analysis/updated_sp_analysis.pdf

[32] Updated Economic Analysis of the WCI Regional Cap-and-Trade Program. July 2010. Found at: http://www.westernclimateinitiative.org/component/remository/Economic-ModelingTeam-Documents/.

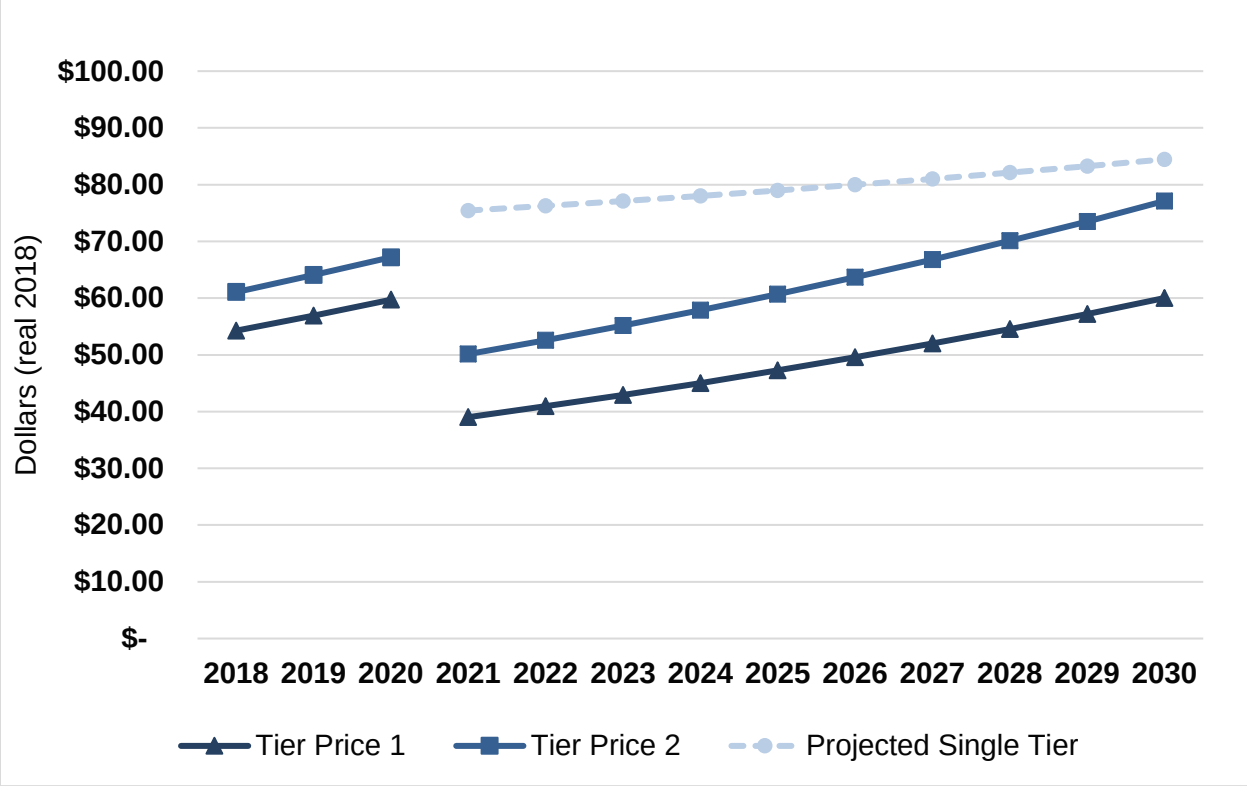
[33] From 2010 ISOR https://www.arb.ca.gov/regact/2010/capandtrade10/capisor.pdf

additional allowance supply at half, and three-fourths, of the distance between the Auction Reserve Price and price ceiling as shown above in Figure B.

By placing the tiers prices meaningfully below the price ceiling, the tiers can function with increased effectiveness relative to the current Reserve to provide early signals to market participants that prices could escalate higher. If the tiers are accessed through a Reserve sale, the new post-2020 Reserve offers initial cost relief through Reserve allowances, and a clear signal to all market participants of a potentially tight market. Figure C above shows the current Reserve's clustered tiers in 2020, and the increased separation of the new post-2020 Reserve tiers and price ceiling in 2021. In 2020, the current Reserve's first and third tier will only have approximately $15 separation between them. In 2021, the distance between the first tier and price ceiling will be expanded to $22 under the proposed amendments (figure C also shows this distance increases over time). The expanded distance between the Reserve tiers and price ceiling, relative to the current Reserve, ensures market participants will have time to initiate additional GHG reductions.

Relative to existing post-2020 expectations under the current Regulation, staff's proposed new post-2020 Reserve tiers are also set below the single Reserve tier price path as shown in Figure F. Therefore, the new post-2020 Reserve offers a price moderating effect below the maximum price that could occur under the single tier post-2020 Reserve.

Figure F. Proposed Reserve Tiers and Projected Single Tier Reserve



f. Considerations for Populating the Price Ceiling and New Post-2020 Reserve Tiers

AB 398 provides CARB with some direction on allowances that must be used to populate the price ceiling, and also provides direction related to the number of allowances that should be used to establish the new post-2020 Reserve tiers. The following discussion addresses each of these allowance sources in turn.

Pre-2021 Reserve Allowances

AB 398 gives clear direction on pre-2021 Reserve Allowances. The related language is presented below.

> Health & Safety Code § 38562(c)(2)(A)(ii)(I): "*To implement the price ceiling, the state board shall develop a mechanism that consists of both of the following:*
>
> - *Allowances remaining in the allowance price containment reserve as of December 31, 2020, shall be utilized solely for the purpose of sale at the price ceiling established by this section."*
>
> Health & Safety Code § 38562(c)(2)(B): "*Establish two price containment points at levels below the price ceiling. The state board shall offer to covered entities nontradable allowances for sale at these price containment points. The price containment points shall be established using two-thirds, divided equally, of the allowances in the allowance price containment reserve as of December 31, 2017."*

As of December 31, 2017, the current Reserve contained 121,833,000 allowances, allocated from the existing pre-2021 allowance budgets. This implies that each tier of the new post-2020 Reserve would have at least 40,611,000 allowances (one third of the Reserve) on January 1, 2021. Assuming no Reserve sales before the end of 2020, this will also place approximately 40,611,000 into the price ceiling. Any other allowances remaining in the current Reserve as of December 31, 2020 will also be moved to the price ceiling. CARB anticipates that at least 39 million allowances that remain unsold for 24 months will be moved to the current Reserve prior to December 31, 2020, and therefore the price ceiling will also include these allowances. Table 7 shows the distribution of these allowances under this structure.

Table 7: 2021 Distribution of Pre-2021 Reserve Allowances in 2021

Cost Containment Level	Number of Pre-2021 Allowances
New Reserve Tier 1	40,611,000
New Reserve Tier 2	40,611,000
Price Ceiling	40,611,000 + ~39,000,000 unsold allowances

Post-2020 Reserve Allowances from Current Regulation

The current Regulation designates 52,400,000 allowances from vintage 2021-2030 year allowances to be added to the new post-2020 Reserve.[34] As specified in the amendments approved by the Board in 2017, these allowances reflect what CARB staff believes should be removed from general circulation to reflect that 2020 emissions are likely to be lower than the 2020 annual cap. In other words, this amount of allowances reflects staff's accounting for expected emissions in 2021, and accounts for approximately 2 percent of post-2020 allowances. As part of the proposed amendments, staff is proposing to distribute these allowances evenly into the two new post-2020 Reserve tiers (see Table 8).

Allowances to maintain emissions stringency once quantitative offset usage limit expands to 6 percent in 2026

Staff is also proposing to allocate an additional 22.7 million allowances to the new tier 2 of the Reserve (see Table 8). The proposed amendment is based on the original rationale for funding the Reserve. As described above, the current Reserve was funded by reallocating four percent of the allowances issued under the caps from 2013 through 2020. Reallocating allowances from auction to the Reserve reduced the number of compliance instruments available to the market, which could have increased market prices if no additional action was taken. To avoid this, CARB simultaneously increased the quantitative offset usage limit from four percent to eight percent of the compliance obligation. Covered entities could then substitute an increased number of offsets to replace the allowances that were diverted to the Reserve. AB 398 mandates a four percent quantitative offset usage limit for 2021 through 2025, then raises the limit to six percent for 2026 through 2030. Staff proposes to fund the Reserve with the 22.7 million allowances to correspond with the increase in the quantitative offset usage limit.

Allowances unsold for 24 months

Staff is proposing amendments to the Regulation to include a method for transferring State-owned (not consigned) allowances that remain unsold at auction for more than 24 months to the Reserve with the amendments taking effect by April 1, 2019. The proposed amendments would result in the transfer of current vintage allowances that remain unsold for more than 24 months evenly across the three tiers of the Reserve until December 31, 2020. The effect of this proposal is that allowances for which there was no demand at multiple auctions would be available only if prices reached the Reserve tier prices.

AB 398 directs that allowances remaining in the Reserve as of December 31, 2020 should be placed into the price ceiling. This would include any additional allowances transferred to the Reserve because they remained unsold for more than 24 months.

[34] This language was added to the current Regulation prior to AB 398's legislative direction on the post-2020 period of the Program. See Table 8-2 of the current Regulation: https://www.arb.ca.gov/cc/capandtrade/capandtrade/unofficial_ct_100217.pdf

After 2020, the proposed amendments implement the AB 398 directive to transfer any current vintage allowances that remain unsold at the Current Auction for more than 24 months evenly between the two new post-2020 Reserve tiers.

Aggregate Allowance Totals in the New Post-2020 Reserve Tiers and Price Ceiling

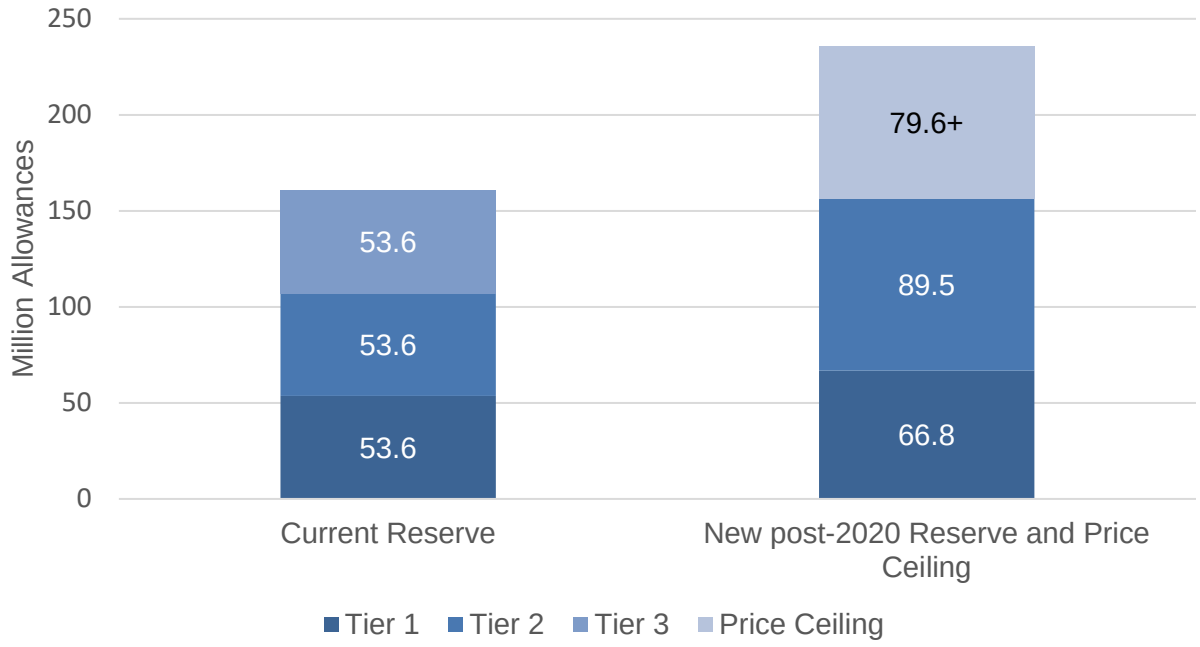
Based on these directives, staff is proposing amendments to the Regulation as shown in Table 8 and Figure G.

Table 8. Distribution of Allowances in Current and AB 398 Reserve Mechanisms

Tier	Current Reserve (Through 2020)	AB 398 New Post-2020 Reserve
	(millions)	
1	53.6[a]	40.6 + 26.2[b]
2	53.6[a]	40.6 + 26.2[b] + 22.7[c]
3	53.6[a]	NA
Price Ceiling	none	79.6 (40.6, 39 unsold)
Additional tons	none	Price Ceiling Units
Total Allowances	160.8	235.9[d]

[a] Includes an estimated 39M (divided equally in each tier) pre-2021 allowances that currently remain unsold at auction for greater than 24 months.
[b] Includes addition of 52.4M allowances designated to the Reserve starting in 2021.
[c] 22.7 million additional allowances represent increase in offset limit from 4 to 6 percent.
[d] Plus all price ceiling units requested for compliance by covered entities if allowances in new post-2020 Reserve tiers and price ceiling are exhausted.
Source: CARB staff estimates

Figure G: Comparison of the Current Reserve and New Post-2020 Reserve and Price Ceiling



g. Discussion of Proposed Cost Containment Price Values and Allowance Distribution

The Cap-and-Trade Program is a critical component of California's action on climate change and must deliver GHG reductions for California to achieve the SB 32 2030 GHG target. The Cap-and-Trade Program is designed in a way that allows covered businesses to find the lowest cost GHG emissions reductions across economic sectors. The Program also includes an auction price floor that ensures a steady and increasing carbon price that provides a clear signal and prompts businesses to monitor and take actions to reduce GHG emissions. Legislation passed in 2017, AB 398, provides additional specificity for achieving these fundamental objectives of the Program.

AB 398 mandates that the post-2020 Cap-and-Trade Program contain two price containment points, or new post-2020 Reserve tiers. When setting the values for these tiers, staff considered the relationship between the allowance price and the opportunity for GHG abatement. Setting low values for the post-2020 Reserve tiers could dampen the long-term price signal needed for businesses to make capital investments in on-site transformational technology, which could lead to fewer GHG emissions reductions than required to achieve the SB 32 target. Conversely, setting the post-2020 Reserve tier prices at levels higher than the cost of GHG abatement for covered businesses could lead to higher allowance prices, emissions leakage, and untenable consumer price impacts.

The number of allowances contained within the post-2020 Reserve tiers also impacts the trajectory of allowance prices, and the impact of the Program on the California

economy. Post-2020 Reserve tiers that contain a small amount of allowances might not provide cost containment nor slow the rapid increase in allowance prices given a surge in demand. Post-2020 Reserve tiers that contain a large amount of allowances could result in jumps in allowance prices as demand for allowances converges to the post-2020 Reserve tiers rather than a slow and steady increase over time. Post-2020 Reserve tiers that are too close to the Auction Reserve Price and that contain a large number of allowances could also dampen the carbon price signal for covered businesses which would result in little to no GHG abatement. Large post-2020 Reserve tiers near the price ceiling could also function as a soft price ceiling and dampen the incentive for GHG reductions above the post-2020 Reserve tier price.

An important consideration in structuring the new post-2020 Reserve and price ceiling is how the Cap-and-Trade Program interacts with complementary policies. If all complementary policies perform exactly as modeled in the 2017 Scoping Plan, 62 percent of the GHG emissions reductions necessary to achieve the SB 32 target are estimated to be achieved by policies outside of the Cap-and-Trade Program.[35] Reductions achieved under these complementary policies will have associated costs – but those costs are largely independent of the Cap-and-Trade Program allowance price. Table 10 in the 2017 Scoping Plan Updates includes the estimated cost per metric ton of GHG emissions reductions for each Scoping Plan measure.[36] Some of these measures are codified in existing legislation, including the 50 percent Renewables Portfolio Standard with an estimated cost of $100 to $200 per metric ton and the Short Lived Climate Pollutant Strategy with an estimated cost of $25 per metric ton. The GHG emissions reductions associated with complementary policies will occur outside the Cap-and-Trade Program and will not be responsive to the allowance price.

Given the existence of complementary policies, the Cap-and-Trade Program allowance price should reflect the need to achieve the estimated 38 percent of GHG emissions reductions needed to achieve the SB 32 target. The Auction Reserve Price and new post-2020 Reserve, and post-2020 Reserve tiers provide cost containment only on the portion of GHG reductions that will be achieved through the Program, and do not reflect the cost of achieving all the reductions needed to achieve the SB 32 target.

In total, the staff proposal achieves the following outcomes:

- The price ceiling provides a firm limit on the cost of complying with the Program and is a cost-containment mechanism, in the unlikely event that allowance prices, or the cost of achieving GHG emissions reductions under the Program, are higher than anticipated.
- The structure of the post-2020 Reserve tiers and the number of allowances in each tier ensures that if allowances prices rise, they will rise steadily which allows the market time to react and find additional GHG reduction technologies or opportunities if allowance prices increase. While some stakeholders may be concerned by the spacing and desire for larger tiers at lower allowance prices, the proposal does not retire or remove any unused pre-2021 allowances and at

[35] *See* Figure 7, page 28 https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.
[36] *See* Table 10, page 46 https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

least 150 million unused allowances from 2013 through 2020 may remain available in the post-2020 Program –potentially reducing the allowance price.

- The Reserve limits the ability of businesses to manipulate and quickly increase allowance prices by injecting 66 million and 90 million allowances into the market at prices that are lower than the current Regulation's single Reserve tier. The availability of these allowances limits the ability of businesses to profit from even short-term market manipulation as entities with a compliance obligation will now have a known source of allowances dedicated for compliance uses through the Reserve tiers and price ceiling. The Reserve allowances also serve to regulate and dampen potential allowance price increases, allowing covered entities to reassess and implement newly cost-effective GHG reductions.
- The price ceiling provides a strong price signal for GHG emissions reductions that is in line with the valuation of the benefits of GHG emissions reductions as currently estimated through SC-CO_2 and other co-benefits.

Importantly, the new post-2020 Reserve tiers and price ceiling work in coordination with other features of the Program that provide compliance flexibility to meet the 2030 target reliably and cost effectively. These include banking of allowances (including a unused allowances that can be banked forward into the post-2020 Program based on early reductions), use of a limited number of offsets, multi-year compliance periods, and the broad scope that identifies a diverse set of sources with a range of emission reduction opportunities. Additionally, the Program includes industrial allocation and the residential climate credit, which work to reduce the cost burden of allowance prices to covered entities and residents of the State. Further, the Legislature appropriates money from the GGRF to programs that reduce GHG emissions, reduce air pollutant emissions where reductions are needed most, grow markets for clean technologies, and spur emissions reductions in sectors not covered by Cap-and-Trade.[37]

h. Considerations for Establishing a Mechanism for Offering Additional Metric Tons at the Price Ceiling

AB 398 requires that CARB establish a mechanism by which CARB could offer additional metric tons of reductions should allowances in the new post-2020 Reserve tiers and the price ceiling be exhausted. The related language is presented below.

> Health & Safety Code § 38562(c)(2)(A)(ii)(II): "*If the allowances from the allowance price containment reserve are exhausted, the state board shall offer covered entities additional metric tons at the price ceiling if needed for compliance. All moneys generated pursuant to this clause shall be expended by the state board to achieve emissions reductions, on at least a metric ton for metric ton basis, that are real, permanent, quantifiable, verifiable, enforceable by the state board and in addition to any greenhouse gas emission reduction otherwise required by law or regulation and any other greenhouse gas emission reduction that otherwise would occur."*

[37] *See* California Climate Investments website, available at http://www.caclimateinvestments.ca.gov/about-cci. Accessed August 21, 2018.

The price ceiling must be compensated with a metric ton for metric ton reduction to maintain the environmental integrity of the Program. If the price ceiling is accessed, and the existing stock of allowances dedicated to the price ceiling are exhausted, CARB would have to look outside the Program for equivalent- or lower-priced reductions. In the proposed amendments, staff proposes that a new instrument type would be created and reported in the public compliance reports similar to the details provided on how an entity surrenders any combination of allowances or offsets. The proposed amendments would call these reductions price ceiling units.

The proposed amendments describe the process through which covered entities would purchase these price ceiling units, at the same price ceiling sales as any allowances offered at the price ceiling, and further specifies that any moneys generated from the sale of price ceiling units will be expended to achieve emissions reductions on at least a metric ton for metric ton basis that are real, permanent, quantifiable, verifiable, enforceable by the state board and in addition to any greenhouse gas emission reduction otherwise required by law or regulation and any other greenhouse gas emission reduction that otherwise would occur. Future regulatory amendments will likely be necessary to identify eligible emissions reductions achieved using price ceiling unit sales proceeds. Possible sources could be sector-based offset credits from future approved programs that reduce emissions from tropical forests and other uncapped sectors.

i. The Mechanics of Sales from the Price Ceiling and the New Post-2020 Reserve

Staff is proposing retaining many of the existing mechanical features of the current pre-2020 Reserve for sales from the new post-2020 Reserve. However, based on AB 398 directives, price ceiling sales will function differently to ensure the price ceiling is only available if all allowances in the first tier of the new post-2020 Reserve are exhausted.

Operation of the Proposed New Post-2020 Reserve Sales

Staff is proposing that sales from the new post-2020 Reserve tiers will continue to use the existing Regulation provisions, including the requirement that only California entities with a compliance obligation (covered and opt-in covered entities) are eligible to participate in Reserve sales. Staff will conduct a sale if prices meet the existing price trigger and entities indicate a desire to purchase, except for the sale immediately preceding a compliance event, which is not subject to the price trigger. Up to four Reserve sales a year may be conducted. Entities may bid to either tier and the existing "roll down" bid option will allow entities to pay the lower tier price if they bid to the higher tier and allowances are still available in the lower tier. Staff is proposing to retain the existing bid guarantee, financial settlement, and allowance award rules. The proposed amendments will restructure these existing provisions to improve clarity, but the underlying mechanism will be carried forward. Retaining these features of the Reserve

maintains a known, and therefore predictable, set of rules in the event that entities require access to Reserve allowances.

Operation of the Proposed Price Ceiling Sales

Based on AB 398 directives, sales from the price ceiling will use a different procedure than sales from the new post-2020 Reserve, but will include the requirement that only California entities with a compliance obligation (covered and opt-in covered entities) are eligible to participate in price ceiling sales. Staff is proposing to schedule one sale from the price ceiling per year. This sale would occur between the last Reserve sale before a compliance event and the compliance event itself. This limitation is supported by the fact that the price ceiling is intended to be available only if all allowances in the first tier of the new post-2020 Reserve have been exhausted and to help ensure compliance. The proposed amendments specify that the terms of sale would be a cash purchase of allowances or price ceiling units at a fixed price (the price ceiling). There would be no bidding and, therefore, there would be no bid guarantee. Eliminating the bid guarantee helps to lower the cost of acquiring allowances or price ceiling units at the price ceiling.

Staff is proposing to limit the number of allowances a covered entity can purchase at the price ceiling to its obligation currently due less any compliance instruments it holds that are valid for surrender. Allowances purchased would be placed directly into the entity's compliance account. This strengthens the incentive to find emissions reductions in covered sectors. As required by AB 398, in the event that allowances at the price ceiling are exhausted, CARB would offer covered entities price ceiling units at the price ceiling, and all moneys generated would be used by CARB to purchase additional valid reductions on a metric ton for metric ton basis. The proposed amendments include a procedure for the conduct of sales from the price ceiling. Upon purchase, the price ceiling units would be transferred to entity compliance accounts.

Finally, since the supply of price ceiling units at the price ceiling guarantees instruments are available for compliance needs, staff consider the existing borrowing mechanism from the existing Regulation, which allows CARB to replenish the third Reserve tier with allowances borrowed from future vintages, to be redundant and is proposing to eliminate it starting in 2021.

2. Offsets and Offset Program Implementation

When developing the Cap-and-Trade Program, CARB recognized not only the important cost-containment role and compliance flexibility that allowing a limited number of offset credits would provide for the Program, but also that inclusion of offsets in the Program would support the development of innovative projects and technologies from sources outside capped sectors that play a key role in reducing emissions both inside and outside California. (CARB 2010a) The Board has continued to recognize the importance of offsets in the Program through the adoption of Compliance Offset Protocols across six different project types.

CARB has also continually emphasized that from a climate perspective, it is not important where a reduction occurs since the science supports that a GHG reduction anywhere is a benefit everywhere (CARB 2018b) and that GHGs are a global pollutant that do not pose health risks at ambient levels. As such, the existing Compliance Offset Protocols were developed to be applicable throughout the United States. Given the importance of deforestation's contribution to climate change worldwide, even though the Proposed Amendments would not result in any international offset credits becoming eligible in the Program, CARB continues to believe that it is important for California to consider the importance of reducing emissions from tropical deforestation and from other uncapped sectors.

AB 398 directs CARB to "[e]stablish offset credit limits according to the following: (I) From January 1, 2021, to December 31, 2025, inclusive, a total of 4 percent of a covered entity's compliance obligation may be met by surrendering offset credits of which no more than one-half may be sourced from projects that do not provide direct environmental benefits in state. (II) From January 1, 2026, to December 31, 2030, inclusive, a total of 6 percent of a covered entity's compliance obligation may be met by surrendering offset credits of which no more than one-half may be sourced from projects that do not provide direct environmental benefits in the state."

CARB has had to consider how to modify the Cap-and-Trade Regulation to implement the direct environmental benefits in the State (DEBS) requirement of the statute. AB 398 defines projects that meet the DEBS requirement as projects that result in "the reduction or avoidance of emissions of any air pollutant in the state or the reduction or avoidance of any pollutant that could have an adverse impact on waters of the state." In developing regulatory language to conform to the new AB 398 requirement, there are several considerations which have helped inform the Proposed Amendments. These considerations are described below.

a. Quantitative Usage Limits on Offsets 2021 through 2030

To align the Regulation with AB 398 requirements, proposed revisions specify that the quantitative offset usage limit will be four percent for emissions from 2021 to 2025 and six percent for emissions from 2026 to 2030. The proposed regulatory language specifies that the quantitative offset usage limits apply to emissions in the years specified by AB 398. This clarification is necessary because the years in which covered emissions occur (referred to as data years in the Regulation) differ from the years in which the compliance instruments (including offsets) are submitted to CARB to meet compliance obligations. For instance, the third compliance period covering emissions from 2018 to 2020 will have a final surrender deadline on November 1, 2021. Further, the Program has multi-year compliance periods, and compliance for the first years of a compliance period requires only an annual surrender (30 percent of the previous year's emissions), while compliance in the final year requires a full compliance period surrender (100 percent of the previous year's emissions plus the remainder of emissions from the first years of the compliance period). The two periods with different quantitative offset usage limits specified by AB 398 (2021-2025 and 2026-2030) cross

over a compliance period (2024-2026). As such, the proposed amendments specify that the AB 398-mandated quantitative offset usage limits apply to the years in which the emissions occur, regardless of when those offset credits are surrendered to meet the corresponding compliance obligations.

The proposed amendments also specify that up to one half of a covered entity's quantitative offset usage limit may be met by ARB offset credits that do not provide DEBS, independent from surrendering ARB offset credits that do provide DEBS.

b. Direct Environmental Benefits in the State (DEBS)

Considerations in Establishing DEBS Requirements

When developing the criteria for which offset projects meet the DEBS requirements, CARB staff had to consider science, stakeholder comments, and Legislative discussions regarding this provision in AB 398. Legislative reports provide an indication of those discussions, including a desire to further the environmental co-benefits in the State of offset projects.[38] (Bill Analysis 2017) In addition, given the diverse nature of currently adopted offset protocols, identifying a single DEBS criterion that applies appropriately to each offset protocol type proved challenging. CARB staff also needed to evaluate how to apply criteria to the tens of millions of offsets already issued in the system that may be used for compliance surrender for emissions for the year 2021 and beyond.

Based on these considerations, the Proposed Amendments include a performance standard approach for projects that are located within, or that avoid GHG emissions within, the State of California, to determine upfront that these projects provide DEBS. This approach is similar to how we implement other aspects of the Compliance Offset Protocols (e.g., the assessment of additionality). It is feasible because, based on an assessment of the additional benefits provided by the Compliance Offset Protocols, it is clear that projects located in, or that avoid GHG emissions within, the State result in DEBS. It is not always clear that projects located outside, or that do not directly avoid GHG emissions within, the State would provide DEBS, so the Proposed Amendments provide a mechanism by which these projects could seek to obtain a DEBS determination based on the submittal of specified, rigorous documentation.

With respect to application of the DEBS requirements to projects that have already received ARB offset credits, staff noted that AB 398 specifies certain conditions (e.g., DEBS) related to the surrender of instruments in the post-2020 period of the Cap-and-Trade Program. ARB offset credits issued prior to 2020 are still valid for surrender post-2020, whether or not they were issued to offset projects which provide DEBS. However, the number of ARB offset credits eligible to be surrendered by covered entities that come from projects which do not provide DEBS will change per AB 398. This does not result in a retroactive application of a statutory mandate, but

[38] *See* AB 398, Bill Analysis, https://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=201720180AB398

implementation, prospectively, of the legislative requirement. As such, the Proposed Amendments also include provisions enabling existing projects that are located outside the State to seek the same DEBS determination as new out-of-state projects.

The next section provides further information on the Proposed Amendments, including the performance standard assessment per Compliance Offset Protocol that support the determination in the Proposed Amendments that projects located in, or that avoid emissions within, the State are considered to provide DEBS.

Proposed Amendments to Implement DEBS Requirements

CARB staff has developed proposed amendments to Subarticle 13 of the Regulation that clarify that CARB's currently approved Compliance Offset Protocols ensure that projects located in the State provide for the reduction or avoidance of any air pollutant in the State beyond the GHGs for which the project is credited, and/or the reduction or avoidance of any pollutant that could have an adverse impact on waters of the State. This determination with respect to projects located in the State is based on the following:

Compliance Offset Protocol Livestock Projects: Livestock projects reduce the need for fossil-based fertilizers, reduce runoff into waters of the state, decrease dependence on fossil fuels—the combustion of which releases air pollutants—by meeting on-dairy energy usage needs and providing energy to the local grid, and reduce odors from the dairy. (US EPA 2018a) In addition, methane is a precursor of ozone. As noted in California's Short-Lived Climate Pollutant (SLCP) Strategy, the photo-oxidation of both methane and carbon monoxide lead to the production of global background levels of ozone, which itself is not only a powerful SLCP but also a regional ground level air pollutant. (CARB 2017c) Reducing methane emissions, aside from the GHG benefits, also reduces the production of ground-level ozone. (WHO 2015) The SLCP Strategy stresses this point by noting that "[o]zone negatively impacts human health, and can lead to asthma attacks, hospitalizations, and even premature death. It impairs the ability of plants to absorb CO_2, thereby suppressing crop yields and harming ecosystems. Ozone also affects evaporation rates, cloud formation, and precipitation levels. In addition to the direct climate benefits of cutting methane emissions, it can also reduce global background levels of ozone pollution and provide additional climate, health, and other benefits." (CARB 2017c) As such, livestock projects located within the State provide DEBS by reducing or avoiding emissions of air pollutants in the State and reducing or avoiding pollutants that could have an adverse impact on waters of the State.

Compliance Offset Protocol Ozone Depleting Substances (ODS): ODS projects destroy chlorofluorocarbon (CFC) and hydrochlorofluorocarbon (HCFCs) pollutants that would slowly leak to the atmosphere resulting in the destruction of the stratospheric ozone layer, in addition to their high GWPs' impact on climate change. (UNEP 2018) For ODS projects that source ODS from within the State, destroying the ODS has a GHG benefit which results in offset credits under the Protocol; but there are also ozone-

related benefits from destroying these gases that are in addition to the GHG benefits for which the projects are credited. Additionally, the destruction of CFCs that could otherwise be reclaimed and reused in older refrigeration units will accelerate the conversion to newer more energy efficient units that will reduce emissions of GHGs and criteria and toxic pollutants by reducing electricity demand. (US EPA 2002) As such, ODS projects that contain material sourced from within the State provide DEBS.

Compliance Offset Protocols for Urban Forest and U.S. Forest Projects: Urban and U.S. forest projects deliver air quality benefits by the cooling effect of tree shade (for urban projects) and by removing certain pollutants (leaves and needles have surface area that can allow for removal (deposition) of ozone, nitrogen dioxide, and to a lesser extent particulate matter). (CARB 2012) Healthy forests, with reduced fuel loads, help reduce the risk of wildfire and local air quality risks. (Forest Climate Action Team 2018) In addition, healthy forests, with improved management and/or avoided conversion projects, reduce the risk of runoff into waters of the state. (CARB 2017a) Moreover, reduced harvesting will reduce fossil fuel usage by equipment and vehicles which will result in reduced energy consumption (CEC 2005) and reduced criteria, toxic, and GHG emissions that are not accounted for in the protocol. All of these benefits are in addition to the GHG reductions for which urban and U.S. forest projects would receive credits for and these project types located within the state therefore provide DEBS.

Compliance Offset Protocol Rice Cultivation Projects: Rice cultivation projects reduce the need for agricultural water, a water quality benefit, which will result in reduced fossil fuel consumption (CEC 2005) from conveying water and, therefore, reduce criteria, toxic, and GHG emissions that are not accounted for in the protocol. In addition, methane is a precursor of ozone. As noted in California's Short-Lived Climate Pollutant (SLCP) Strategy, the photo-oxidation of both methane and carbon monoxide lead to the production of global background levels of ozone, which itself is not only a powerful SLCP but also a regional ground level air pollutant. (CARB 2017c) Reducing methane emissions, aside from the GHG benefits, also reduces the production of ground-level ozone. (WHO 2015) The SLCP Strategy stresses this point by noting that "[o]zone negatively impacts human health, and can lead to asthma attacks, hospitalizations, and even premature death. It impairs the ability of plants to absorb CO_2, thereby suppressing crop yields and harming ecosystems. Ozone also affects evaporation rates, cloud formation, and precipitation levels. In addition to the direct climate benefits of cutting methane emissions, it can also reduce global background levels of ozone pollution and provide additional climate, health, and other benefits." (CARB 2017c) As such, rice cultivation projects located in the state provide DEBS.

Compliance Offset Protocol Mine Methane: To date, there are no mine methane capture projects located in California. However, mine methane capture projects can decrease dependence on fossil fuels—the combustion of which releases air pollutants—by meeting mine energy usage needs and providing energy to the local grid. In addition, methane is a precursor of ozone. As noted in California's Short-Lived Climate Pollutant (SLCP) Strategy, the photo-oxidation of both methane and carbon monoxide lead to the production of global background levels of ozone, which itself is not only a powerful

SLCP but also a regional ground level air pollutant. (CARB 2017c) Reducing methane emissions, aside from the GHG benefits, also reduces the production of ground-level ozone. (WHO 2015) The SLCP Strategy stresses this point by noting that "[o]zone negatively impacts human health, and can lead to asthma attacks, hospitalizations, and even premature death. It impairs the ability of plants to absorb CO_2, thereby suppressing crop yields and harming ecosystems. Ozone also affects evaporation rates, cloud formation, and precipitation levels. In addition to the direct climate benefits of cutting methane emissions, it can also reduce global background levels of ozone pollution and provide additional climate, health, and other benefits." (CARB 2017c) As such, if any mine methane capture projects are located within the state, they would provide DEBS by reducing or avoiding emissions of air pollutants in the state.

The proposed amendments also specify a process for out-of-state offset projects to provide documentation to CARB to demonstrate that they also provide DEBS. Pursuant to the proposed amendments, this documentation should be in the form of peer-reviewed scientific papers, reports from governmental or multinational bodies such as the Intergovernmental Panel on Climate Change, or project specific data.

The proposed amendments also specify timing requirements for the submittal of the documentation identified above. For new offset projects that have not previously been issued ARB offset credits, the documentation must be submitted during the first (initial) reporting period. For existing offset projects, that have previously been issued ARB offset credits, the documentation must be submitted to CARB for review no later than December 31, 2021. Once a project has been determined by CARB to provide DEBS, the project will be considered to provide DEBS for the duration of the project life.

c. Additional Amendments to the Compliance Offset Program

Provisions for the compliance offset program are largely in Subarticle 13, although there are also relevant definitions in Subarticle 2. In Subarticle 2, CARB staff proposes amendments to clarify the definition for Initial Crediting Period to allow the crediting period to begin even in cases where no GHG emissions reductions or removal enhancements occur and to clarify the definition of Reporting Period to allow eligible projects that did not use the full 24 months allowed in the initial reporting period to add any unused months to the final reporting period of the initial crediting period so that every project may have an equal opportunity to utilize the maximum allowable initial crediting period, and to allow Livestock offset projects to transition to a Low Carbon Fuel pathway.

In Subarticle 13, CARB staff proposes (1) clarifications about attestations to CARB and approved Offset Project Registries, (2) revisions to the Notice for Offset Verification Services in relation to the verification site visit, (3) clarification to the Conflict of Interest Self-Evaluation for verification bodies, (4) clarification for cancelling registry offset credits after ARB offset credits have been issued, (5) additional requirements for Offset Project Registries to facilitate ARB offset credit issuance process, (6) four new listing status options to better describe offset projects which are inactive, terminated,

monitored, or complete, (7) provisions to clarify successor liability in cases of intentional reversals, (8) provisions to streamline project review and corrections related to CARB approval of alternative methods to obtain data required by the Compliance Offset Protocols, (9) provision to allow for minor errors that are less than a material misstatement, (10) provisions to streamline regulatory compliance assessments by ARB, and (11) revisions to the regulatory compliance and invalidation sections to clarify which violations are not project related and limit the time period U.S. Forest projects are ineligible for ARB offset credits to the time period the project is actually out of regulatory compliance.

3. Allowance Allocation

Allowances can enter the Cap-and-Trade market through two primary mechanisms: either they are provided directly to regulated entities or made available for sale at auction to all market participants. Allowances are freely allocated to industrial covered entities to prevent emissions leakage and to provide transition assistance as the economy adapts to a carbon price. CARB also distributes free allowances to electricity distribution utilities and natural gas suppliers for the benefit of their ratepayers. This section describes proposed amendments to the allowance allocation provisions in the Regulation.

a. Transition Assistance for Waste-to-Energy Facilities

The 2016 amendments ended the limited exemption from a compliance obligation for waste-to-energy facilities. This limited exemption was implemented through an allocation of free allowances to the waste-to-energy facilities to cover their entire compliance obligation from 2013 through 2017. Beginning in 2018, waste-to-energy facilities incur a compliance obligation and must acquire and surrender compliance instruments in an amount equal to covered emissions. The limited exemption for these facilities through 2015 was established by the 2013 amendments, and it was extended by the 2016 amendments through the second compliance period as CARB, along with CalRecycle, continued to evaluate the treatment of end-of-life management options for municipal solid waste under the Program.[39]

Board Resolution 17-21 directed staff to "…work with the three existing waste-to-energy facilities that are covered by the Cap-and-Trade Program to provide transition assistance for a compliance obligation beginning in 2018 and ending when landfill diversion is required to achieve a 75 percent diversion rate by 2025." Per the March 2017 Short Lived Climate Pollutant Reduction Strategy (CARB 2017a), CalRecycle, in consultation with CARB, will develop regulations to reduce disposal of organic waste to 50 percent of 2014 levels by 2020 and to 75 percent of 2014 levels by 2025, as required by SB 1383.

[39] All documents related to past regulatory amendments can be found on the Cap-and-Trade website at https://www.arb.ca.gov/cc/capandtrade/capandtrade.htm.

Pursuant to Board Resolution 17-21, the proposed amendments specify eligibility criteria for waste-to-energy facilities to receive allowance allocation, provide for allowance allocation during 2018-2020 and post-2020 periods, and specify an allowance allocation calculation methodology. Staff proposes to provide free allowance allocation to waste-to-energy facilities based on a historic average of annual covered emissions less the emissions associated with sold electricity that is generated from non-biogenic fuel. This approach provides appropriate transition assistance by considering the emissions that incur a compliance obligation in the Cap-and-Trade Program. Similar to the method of establishing baseline values for new entrant facilities under an energy-based allocation method, historic annual averages will be established using 2015 through 2017 data years, the three most recent years for which data are available. Staff believes that this approach provides equitable treatment of facilities in the waste-to-energy sector and accurately allocates allowances for the purpose of transition assistance through vintage 2024.

b. Transition Assistance for Legacy Contract Generators

Board Resolution 17-21 directs CARB staff to "…work with any remaining entities with legacy contracts and their non-industrial counterparties to resolve the parties' issues related to recovery of greenhouse gas costs, or, as necessary, to propose regulatory amendments to be in place no later than the allocation of vintage 2021 allowances to ensure reasonable transition assistance for greenhouse gas costs throughout the term of the legacy contract." These amendments propose allocation for legacy contract transition assistance starting with vintage 2021 allowance allocation for any entity whose legacy contract with a non-industrial counterparty remains in place after 2020 and through the life of the existing contract, provided that the contract is not renegotiated. Entities with legacy contracts with *industrial* counterparties will not be affected by this change.

Under the proposed amendments, certain past legacy contract generators, with and without industrial counterparties, that received allocations based on CARB's expectation that their contract allowed for some natural gas carbon cost pass-through, will receive a true-up based on more recent information.

c. Energy-Based Allocation Methodology

Staff proposes changes to the energy-based allocation methodology to include process emissions in the calculation of allowance allocation. Process emissions must be added to the energy-based allocation equation to provide the appropriate level of leakage protection and transition assistance to facilities with process emissions. Potential entry into the Program by facilities that both have significant process emissions and will receive energy-based allowance allocation necessitate this change. Process emissions are covered emissions, and they derive from industrial processes involving chemical or physical transformations other than fuel combustion. Examples of these emissions are the calcination of carbonates in cement kilns or lime manufacturing. Staff has

historically included process emissions in allowance allocation calculations[40] and leakage risk assessments,[41] and this change will provide equitable treatment of process emissions in the energy-based and product-based allocation methodologies.

As discussed below, staff also proposes to change allowance allocation assistance factors in the third compliance period (2018 to 2020) for medium- and low-leakage risk sectors to 100 percent from 75 percent and 50 percent, respectively. Initial allocation for vintage 2018 and 2019 allowances using the lower assistance factors will have occurred by the time these amendments go into effect, so the third compliance period assistance factor change will need to be reflected in future true-up allocation. The energy-based allocation methodology does not currently include a true-up mechanism, so staff proposes to add a true-up provision to the energy-based allocation for vintages 2020 and 2021. This will enable the application of the amended assistance factors to allowances allocated for 2018 and 2019 vintage years. This will ensure that covered entities in affected sectors will receive the appropriate level of allowance allocation for leakage prevention during the third compliance period.

d. University Covered Entities and Public Service

Staff proposes, in limited circumstances, to expand the MRR data years that CARB may employ when determining baseline values used for allocation to university covered entities and public service facilities. The current Regulation limits staff to using data reported pursuant to MRR for the years 2008-2013 when determining allocation baselines. In limited cases where a change in facility ownership cause a university or public service facility to transition from an opt-in covered entity to a covered entity, staff proposes to allow consideration of all MRR data when determining baseline allocation values. This change will provide staff needed flexibility to provide an appropriate level of transition assistance to such covered entities.

e. Post-2020 Cap Adjustment Factors

The current Regulation sets alternate, more slowly declining pre-2021 cap adjustment factors for industrial sectors with a high proportion of process emissions, high emissions intensity, and high leakage risk. Board Resolution 17-21 directs staff to "…evaluate and propose, as necessary, post-2020 cap adjustment factors consistent with the methodology used in 2015-2017 allocation."

CARB staff applied 2012-2015 data and used the same criteria and methodologies as for 2015-2017 in order to identify industrial activities eligible for alternate cap adjustment

[40] California Air Resources Board. 2010 Proposed Regulation to Implement the California Cap-and-Trade Program, Staff Report: Initial Statement of Reasons, Part I, Volume IV, Appendix J: Allowance Allocation. https://www.arb.ca.gov/regact/2010/capandtrade10/capv4appj.pdf.

[41] California Air Resources Board. 2010 Proposed Regulation to Implement the California Cap-and-Trade Program, Staff Report: Initial Statement of Reasons, Part I, Volume IV, Appendix K: Leakage Analysis. http://www.arb.ca.gov/regact/2010/capandtrade10/capv4appk.pdf.

factors post-2020. The three criteria that CARB originally set for evaluating an industrial activity's eligibility for the alternate cap adjustment factors[42] are as follows: over 50 percent of the sector's total emissions are from process emissions, the sector has high emissions intensity, and the sector has a high leakage risk classification. High emissions intensity is defined as an emissions intensity greater than 5,000 $MTCO_2e$ per million dollars value added.[43]

CARB staff assessed industrial sectors for eligibility for alternate cap adjustment factors at the 6-digit North American Industry Classification System (NAICS) code level, unless it could be demonstrated that the activities conducted by an industrial sector are not accurately characterized by their specific 6-digit NAICS code. Facilities engaged in coke calcining approached CARB staff to demonstrate that NAICS code 324199 (All Other Petroleum and Coal Products Manufacturing), under which coke calcining is currently classified, does not accurately represent coke calcining activities because that classification includes a wide variety of different manufacturing activities. Staff agrees that NAICS code 324199 may not accurately represent coke calcining activities. Coke calcining facilities submitted 2012-2015 facility-specific data to CARB to enable the assessment for that sector.

To calculate the percentage of total emissions from process emissions for each sector, staff used 2012-2015 MRR data.

Emissions intensity ($MTCO_2e$ per million dollars value added) was calculated for each sector by dividing sector-wide emissions, including both direct on-site emissions and indirect emissions associated with purchased electricity, by value added for the entire sector. For each sector except coke calcining, staff evaluated emissions intensity at the national level because value added data specific to California are not available. For GHG emissions at the national level, staff relied on 2012-2015 data reported to U.S. EPA for direct emissions (US EPA 2018b) and the Annual Survey of Manufacturers (U.S. Census Bureau 2018a) for indirect emissions. Staff used value added data for 2012-2015 at the national level from the Annual Survey of Manufacturers and the U.S. Economic Census. (U.S. Census Bureau 2018b) Indirect emissions were calculated by multiplying the amount of purchased electricity by an emission factor for electricity generation, 1,100 pounds of CO_2 per MWh electricity purchased, consistent with the evaluation CARB conducted in 2010 when assessing sectors for alternate cap adjustment factors for 2013-2020.

When evaluating leakage risk, staff relied on the 2010 leakage risk assessment (CARB 2010c) to develop the original Regulation, and 20 industrial sectors are currently classified as high leakage risk. Staff conducted a new analysis for the coke calcining

[42] California Air Resources Board. 2010 Proposed Regulation to Implement the California Cap-and-Trade Program, Final Statement of Reasons, Page 1952. https://www.arb.ca.gov/regact/2010/capandtrade10/fsor.pdf.

[43] California Air Resources Board. 2010 Proposed Regulation to Implement the California Cap-and-Trade Program, Staff Report: Initial Statement of Reasons, Part I, Volume IV, Appendix K: Leakage Analysis. http://www.arb.ca.gov/regact/2010/capandtrade10/capv4appk.pdf.

sector to assess if it should still be classified as high leakage risk when evaluated independently from other activities included in NAICS code 324199. Facility-specific data collected from California coke calcining facilities were utilized to perform the evaluation consistent with the methodology established for the 2010 leakage risk assessment.

Applying this methodology, staff finds the following industrial activities meet all three criteria and are eligible for alternate cap adjustment factors in the post-2020 period: coke calcining under the NAICS code 324199 (All Other Petroleum and Coal Products Manufacturing), activities under the NAICS code 325311 (Nitrogenous Fertilizer Manufacturing), activities under the NAICS code 327311 (Cement Manufacturing), and activities under the NAICS code 327410 (Lime Manufacturing). Table 10 shows the results of this assessment for the industrial sectors that are found to qualify for alternate cap adjustment factors beginning in 2021.

Table 10: Sectors Eligible for Post-2020 Alternate Cap Adjustment Factors

NAICS Code	Industrial Sector	Percentage Process Emissions[#]	Emissions intensity ($MTCO_2e$/$M value added)	Leakage Risk Classification
324199	Coke calcining	> 50%[#]	> 5,000[#]	High
325311	Nitrogenous Fertilizer	> 50%[#]	5,582	High
327310	Cement manufacturing	> 50%[#]	17,885	High
327410	Lime manufacturing	> 50%[#]	19,142	High

[#] Exact data are withheld to protect confidential business information.

f. Assistance Factors

AB 32 and AB 398 require that CARB minimize leakage, which is a reduction in emissions of GHGs within the State that is offset by an increase in emissions of GHGs outside the State. Free allowances are allocated to industry at levels defined in the Regulation to mitigate against emissions leakage.

Covered industrial sectors affiliated with specific NAICS codes were categorized as high, medium, and low leakage risk according to CARB's 2010 assessment of industrial leakage risk (CARB 2010c). Leakage risk is captured in the allowance allocation calculation as an assistance factor (AF), which adjusts the calculated allowance allocation levels by the AF percentage. As shown in Table 11, the initial AF values established in the 2010 Regulation were initially proposed to decrease over time. As part of the 2013 amendments to the Regulation, AFs for the second and third compliance periods were increased to the values in the right portion of Table 10 because of the importance of maintaining the health of California's economy and addressing the GHG emissions reduction goals of AB 32 made it necessary to err on the side of reducing leakage pressures while CARB staff awaited the results of its

leakage risk assessments.[44] The 2016 amendments maintained these levels and this is the level at which AF values currently stand.[45]

Table 11. Initially Proposed and Current Assistance Factor (AF) Values

Leakage Risk Category	AF by Compliance Period in 2010 Regulation			AF by Compliance Period in 2013 Amendments		
	First	Second	Third	First	Second	Third
High	100	100	100	100	100	100
Medium	100	75	50	100	100	75
Low	100	50	30	100	100	50

For all industries, the risk of emissions leakage declines when trading partners adopt policies that apply costs to GHG emissions within their own economies. When competitors in other jurisdictions incur comparable GHG emissions costs from GHG emissions reduction programs with similar stringencies, leakage risk is reduced or eliminated. Thus, when trading partners adopt GHG programs, allowance allocation to minimize leakage risk should be correspondingly reduced to reflect the reduced leakage risk.

Post-2020 Assistance Factors

AB 398 directs CARB to "[s]et industry assistance factors for allowance allocation commencing in 2021 at the levels applicable in the compliance period of 2015 to 2017, inclusive. The state board shall apply a declining cap adjustment factor to the industry allocation equivalent to the overall statewide emissions declining cap using the methodology from the compliance period of 2015 to 2017, inclusive." Assistance factors for the period 2015 to 2017 were 100 percent for all sectors. As such, the proposed amendments revise Table 8-1 in the Regulation to set assistance factors for all sectors to be 100 percent for the period 2021 to 2030. This revision aligns the Regulation with AB 398 requirements.

2018 to 2020 Assistance Factors

With respect to AFs for budget years 2018 to 2020, Board Resolution 17-21 directs staff to "… propose subsequent regulatory amendments to provide a quantity of allocation, for the purposes of minimizing emissions leakage, to industrial entities for 2018 through 2020 by using the same assistance factors in place for 2013 through 2017." As shown above, AFs from 2013 to 2017 were 100 percent for all industry sectors and all leakage classifications. When the Program was initially designed, AFs were set at 100 percent and were proposed to drop each compliance period to reflect reduced levels of transition assistance and the expectation that the phasing in of carbon pricing or carbon

[44] All documents related to the 2013 amendments can be found on CARB's website at https://www.arb.ca.gov/regact/2013/capandtrade13/capandtrade13.htm.
[45] All documents related to the 2016 amendments can be found on CARB's website at https://www.arb.ca.gov/regact/2016/capandtrade16/capandtrade16.htm.

regulations in other regions would lessen leakage risk. Board Resolutions 11-32[46] and 12-33[47] directed CARB staff to evaluate and "if necessary, …modify the leakage risk determinations to be implemented prior to the allocation of allowances for the second compliance period." During the 2013 regulatory amendment process, in an abundance of caution, staff delayed the reduction in the AFs by one compliance period as shown in Table 15. This delay allowed for the completion of new research commissioned by CARB at the request of the Board to re-evaluate leakage risk for all industrial sectors covered by the Program and to inform updating industrial assistance factors.[48] These assessments largely confirmed the relative levels of leakage risk determined by CARB's 2010 assessments. During the 2016 Regulation amendment process, CARB released an initial proposal to update AFs based on the results of the commissioned studies, but CARB chose to delay updating AFs due to questions on the data and methods of the studies. As such, the AFs that were developed during the 2016 Regulation amendment process do not represent a final staff proposal that would have been considered by the Board.

During the informal public process leading up to this proposal, stakeholders provided significant input on 2018 to 2020 AFs. In supporting a move to 100 percent AFs, commenters stated concern about higher compliance costs, disruption to affected covered entities, and increased leakage risk.

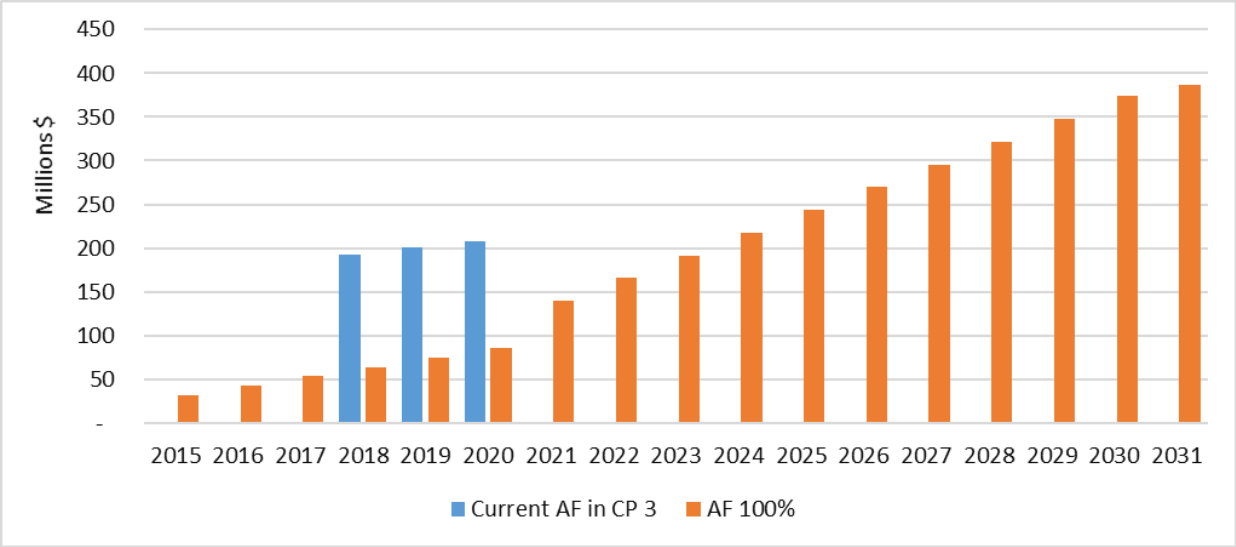
Staff has continued to evaluate data and discuss leakage risk with industrial facilities as part of developing proposals for AFs for the third compliance period. In addition to direction given by the Board, key considerations for setting 2018-2020 AFs include the AB 398 requirement that AFs are set to 100 percent post-2020, the fact that the rate of cap decline – and the corresponding need for GHG reductions – accelerates post-2020, and that carbon pricing policies are not yet widely adopted in other jurisdictions. The AB 398 requirement of 100 percent post-2020 AFs raises questions about the appropriate trajectory for AFs over time. Retaining the current 2018-2020 AFs shown in Table 10 would lead to a three-year drop in AFs for many facilities during the third compliance period, temporarily lowering allowance allocation to these facilities and raising their compliance costs before 100 percent AFs for all facilities are restored in 2021. This could disrupt markets and increase compliance costs in a way that could inhibit some covered entities' ability to invest in GHG reductions and energy efficiency. This spike in compliance costs would come at a time when the cap adjustment factor

[46] California Air Resources Board. Board Resolution 11-32. October 20, 2011. https://www.arb.ca.gov/board/res/2011/res11-32.pdf.
[47] California Air Resources Board (2013). Board Resolution 12-33. September 20, 2012. https://arb.ca.gov/board/res/2012/res12-33.pdf.
[48] Fowlie, M. L., Reguant, M., and Ryan, S. P. Measuring Leakage Risk. May 2016. https://www.arb.ca.gov/cc/capandtrade/meetings/20160518/ucb-intl-leakage.pdf. See also Gray, W., Linn, J., and Morgenstern, R. Employment and Output Leakage under California's Cap-and-Trade Program. May 2016. https://www.arb.ca.gov/cc/capandtrade/meetings/20160518/rff-domestic-leakage.pdf. See also Hamilton, S.F., Ligon, E., Shafran, A., and Villas-Boas, S. "Production and Emissions Leakage from California's Cap-and-Trade Program in Food Processing Industries: Case Study of Tomato, Sugar, Wet Corn and Cheese Markets." May 9, 2016. https://www.arb.ca.gov/cc/capandtrade/meetings/20160518/calpoly-food-process-leakage.pdf.

rate of decline is accelerating from about two percent per year 2013 to 2020 to about four percent per year 2021 to 2030.

Figure H shows staff analysis that illustrates the sudden and temporary compliance cost spike that would result from leaving the AFs at their reduced percentages 2018 to 2020. In this figure, total compliance costs for industrial facilities with medium and low leakage risk are estimated assuming a $15 allowance value for 2015 – 2020 and a $20 for 2021 – 2031 and assuming total emissions in future years remain constant at 2016 levels. Orange bars in the figure demonstrate steadily rising total compliance costs for these facilities if all AFs were set to 100 percent, and blue bars demonstrate the increase in total compliance costs during the third compliance period if current AF values were retained. Additionally, given that many other jurisdictions have not adopted policies that place a price on GHG emissions, the leakage risk facing California industry remains a concern.

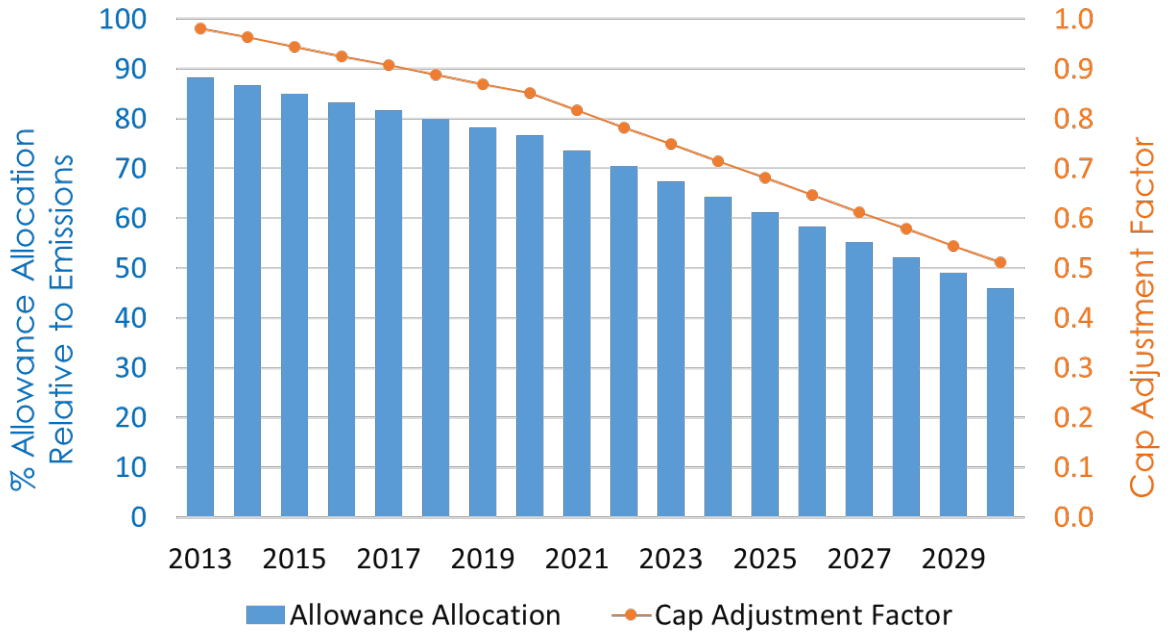
Figure H. Estimated Total Compliance Cost for Industrial Covered Entities in Medium and Low Leakage Risk Categories*



* Compliance costs

Importantly, a 100 percent AF does not mean businesses are freely allocated all the allowances they need to comply with the Program—businesses still need to reduce emissions onsite or acquire additional allowances. Allocated allowance levels drop every year according to the cap adjustment factor, which tracks the overall California emissions budget decline. Figure I shows forecasted allocation levels over time as a percentage of emissions assuming that production levels and emissions efficiency remain constant over time. By 2030, industrial covered entities are forecasted to receive about half of the allowances they receive today, and on average free allocation will provide less than half of allowances needed for compliance in 2030. The total allowances needed to accommodate the changes in third compliance period AFs for facilities with medium and low leakage risk is estimated at about seven million annually, which is about two percent of the total allowance budget for the third compliance period.

Figure I. Effect of Benchmark Stringency and Declining Cap Adjustment Factor on Allocation to Industrial Covered Entities*



*Assumes constant production levels and emissions efficiency over time.

At this time, with AB 398 requiring that CARB set the assistance factors at 100 percent commencing in 2021, with data that shows California is on track to achieve the 2020 target early, and given the much deeper reductions needed in the next decade, CARB staff believes a smooth allocation path between 2017 and 2021 is the best approach to protect against emissions leakage, enable earlier investments in onsite equipment upgrades, and allow for economic growth. Therefore, staff proposes to set 2018-2020 AF values for all industrial sectors to 100 percent in Table 8-1. Staff believes this trajectory of AF values over time maintains an appropriate level of leakage protection and avoids spikes in compliance costs in the third compliance period that could be disruptive to the carbon market and industrial entities' ability to invest in future GHG emissions reductions.

Assistance Factors for New Activities

Staff proposes to add the new industrial sectors "Textile and Fabric Finishing Mills" (NAICS code 313310) and "Other Structural Clay Product Manufacturing" (NAICS code 327123) to Table 8-1 to allow for allowance allocation to potential new entrant facilities that operate in these sectors. New text in Table 8-1 sets assistance factors for these new sector at 100 percent through 2030 as for all other industrial sectors. In the absence of complete information on leakage risk, these newly added sectors are listed with a "TBD" leakage risk category, and a footnote is added to the table stating that staff may propose a leakage risk classification as part of this rulemaking process and that any proposed change will be circulated for a 15-day public comment period. Staff is also proposing amendments to Table 8-1 to add the general activity "Nitrogenous Fertilizer Manufacturing" to the sector "Nitrogenous Fertilizer Manufacturing" (NAICS

code 325311) and the general activity “Lime Manufacturing” to the sector “Lime Manufacturing” (NAICS code 327410). The activities currently included in Table 8-1 for these sectors are specific to entities currently covered by the Program. Staff proposes to add new general activities to accommodate potential new entrant facilities that operate in the “Nitrogenous Fertilizer Manufacturing” and “Lime Manufacturing” sectors, but that do not conduct the activities currently included in Table 8-1 for these sectors.

g. Use of Allowance Value Allocated to Electric and Gas Utilities

Staff proposes amendments to clarify, enhance, and streamline the use of allowance value allocated to EDU and natural gas (NG) suppliers. The State allocates allowances to these utilities for the purpose of benefitting their ratepayers consistent with the goals of AB 32. The amendments provide additional detail regarding how utilities are allowed to use the value of these allowances, responding to utility requests for clarity. Reporting changes will streamline reporting processes while adding detail regarding how each use of allowance value is consistent with the goals of AB 32. Clarifying and limiting the use of auction proceeds ensures the allowance value protects ratepayers or furthers the purposes of AB 32.

Currently, EDUs and NG suppliers are required to report to CARB annually on their use of allocated allowance value during the previous year. Staff reviews and assesses the reported uses of allocated allowance value each year and has identified a need to improve the consistency and transparency of the use of this value. Staff is proposing amendments to clarify and limit how EDU and NG supplier auction proceeds may be used. The changes provide a framework for allowable uses of auction proceeds that focuses on the core purposes of allowance allocation to these entities—benefitting ratepayers and reducing GHG emissions—while maintaining flexibility in the use of allowance proceeds.

The proposed amendments clarify and further specify the current Regulation requirements that uses of allowance value must benefit ratepayers and be consistent with the goals of AB 32 by enumerating the types of activities that meet these requirements. These activities are enumerated separately for EDUs and NG suppliers. These proposed changes address requests from EDUs and NG suppliers for greater certainty on which uses meet the requirements of the Regulation. At the same time, the proposed amendments maintain flexibility by including a range of allowable uses. The proposed amendments also streamline CARB’s oversight of EDU and NG supplier use of allocated allowance value and support greater transparency to the public on the ratepayer and GHG benefits resulting from allocating allowances to EDUs and NG suppliers.

Staff proposes that expenditure of EDU allocated allowance proceeds fall into one of four general categories that benefit ratepayers and are consistent with the goals of AB 32: renewable energy, energy efficiency and fuel switching, other GHG reducing activities, and non-volumetric return of proceeds to ratepayers. NG suppliers may use their allowance value for energy efficiency or other GHG reducing activities, or for non-

volumetric return of proceeds to ratepayers. Allowance value may also be used for reasonable administrative and outreach costs necessary to implement these uses of allowance value.

Renewable energy includes funding the purchase of renewable energy, supporting customer adoption of renewable energy, and funding energy storage that supports the integration of renewable electricity that is directly delivered to California. Use of allocated allowance proceeds for these projects reduces California's GHG emissions and supports the increased penetration of renewable energy.

Energy efficiency and fuel-switching includes funding rebates for energy efficiency improvements, other projects that lower energy use, and fuel-switching projects that lower GHG emissions through electrification, including projects that support electric zero-GHG transportation options and infrastructure.

Other GHG reducing activities includes funding GHG emission reduction activities that are not categorized as renewable energy, energy efficiency, or fuel-switching (or for natural gas suppliers, that are not categorized as energy efficiency), such as projects targeted at reducing emissions of SF_6 and fugitive methane. This section also provides a framework to potentially allow other uses, provided that GHG reductions and ratepayer benefits can be demonstrated to CARB. For natural gas suppliers, allocated allowance value may be used for fugitive methane reduction activities only if those activities are not already required by any federal, state, or local health and safety requirements, legal settlement, enforcement action, Senate Bill 1371 (Morrell, 2014), or the Oil and Gas Regulation.

Non-volumetric return of proceeds to ratepayers is an allowed use of allowance value that does not directly reduce GHG emissions. Rather, this use focuses on benefitting ratepayers while avoiding counteracting the incentive to reduce GHG emissions. Consistent with the current Regulation, non-volumetric revenue return to ratepayers continues to be an acceptable use of allocated allowance proceeds. This section specifies that this return may be provided either on a ratepayer's bill or separate from the bill.

The proposed amendments also modify the Regulation to expressly clarify staff's initial intention that allowance proceeds may not be used for costs of complying with the Cap-and-Trade Regulation, other than as specified in the proposed amendments, or for lobbying that is not specifically tied to ratepayer protection or the reduction of GHGs. As EDUs transition from providing volumetric returns, which has been prohibited by the Regulation since 2017, to other allowable uses, these changes ensure allocated allowance proceeds are not returned volumetrically through the purchase of allowances, not used more generally to support compliance with the Regulation, and not spent on lobbying. These clarifications also apply to NG suppliers. These changes support CARB oversight of the uses of allocated allowance proceeds to ensure usage on its main purposes – reduction of GHG emissions and ratepayer benefit.

Staff is also proposing to require EDUs and NG suppliers to estimate the expected GHG reductions from the uses as part of the annual reporting on use of allocated allowance value. This requirement is necessary to demonstrate that funds were utilized on GHG reducing activities. For ease of implementation and to bring consistency to the calculations performed by multiple utilities, staff is proposing that reporters use specified emission factors when estimating GHG reductions for an activity or project. Proposed amendments specify using MRR or comparable emission factors for non-transportation fuels. For transportation-related activities, California Climate Investments methodologies provide vetted approaches for calculating necessarily diverse emission factors. Each year, CARB will calculate or approve an emission factor to be used for grid electricity and publish it on the CARB website. This grid electricity emission factor is intended to reflect the average annual emissions intensity of California's electricity sector. Staff anticipates that this grid electricity emissions factor will be based on total annual in-state and imported electricity emissions as reflected in the CARB's GHG emission inventory[49] and in-state and imported electricity generation data from the California Energy Commission Energy Almanac.[50] The requirements enable flexibility in estimation methodologies, as the many possible expenditures may necessitate project-specific calculation methods.

Staff is also proposing amendments to clarify how EDU and NG suppliers report on use of allowance value to ensure all allocated allowance auction proceeds spent and unspent amounts during the previous year are reported to CARB. These changes help ensure CARB has a complete reporting of all uses of allowance proceeds and any unspent funds.

h. 10-year Limit on Use of Allowance Value Allocated to Electric and Gas Utilities

The proposed amendments clarify the deadline for spending allocated allowance proceeds received prior to October 1, 2017 to ensure that this allocated value is utilized in a timely manner. The current Regulation is clear that allocated allowance proceeds received after October 1, 2017 must be used within ten years of the vintage year of the allowances, but it is potentially ambiguous how this deadline applies to using allocated allowance proceeds received before October 1, 2017. The proposed amendments resolve this potential ambiguity and clarify that allocated allowance proceeds received prior to October 1, 2017 must be spent within ten years of the effective date of the ten-year spending requirement, meaning they must be spent by December 31, 2027. Because these allowances are allocated for ratepayer benefit and GHG emissions reductions, they should be used or returned to ratepayers within a reasonable period. The proposed ten-year deadline is consistent with the existing ten-year deadline. In developing the deadline in the current Regulation, staff considered several options and determined that ten years provides an appropriate balance between enabling saving for a large capital project and providing benefit to ratepayers within a reasonable timeframe.

[49] *See* https://www.arb.ca.gov/cc/inventory/inventory.htm.
[50] *See* http://www.energy.ca.gov/almanac/.

i. Areas of Continuing Review for Potential Future Rulemaking

Outside of the revisions described as part of the proposed amendments, staff continues to assess whether other aspects of the allocation provisions merit modifications. These areas are still under review and will likely require further stakeholder engagement. As such, none of the following areas are being considered as part of the proposed amendments. Listing them here is not intended to include them in the scope of this regulatory amendment process, but merely to highlight that additional work may be needed in future rulemakings.

Natural Gas Supplier Allowance Allocation

Board Resolution 17-21 directs staff to evaluate approaches to ensuring ratepayer protection for the natural gas supplier sector. Natural gas suppliers currently receive allocation based on the amount of gas they supplied to customers in 2011, exempting gas supplied to industrial and other covered entities, and declining annually with the cap decline factor which is also applied to industrial allowance allocations and the total Program cap. Some natural gas suppliers have submitted comments to CARB expressing concerns regarding whether these allocation amounts are sufficient to protect rate payers as the sector undertakes activities to decarbonize. Electricity sector GHG emissions and allowance allocations currently decrease with the Renewable Portfolio Standard, while natural gas suppliers are not mandated to achieve an analogous decrease in the GHG intensity of their product. In light of the possibility of a renewable gas procurement mandate and other changes which may occur in this sector, staff may consider the need for adjustments to natural gas supplier allowance allocation if and when such a renewable gas procurement mandate is enacted.

Allocation for Increased Electrification

Staff is continuing to evaluate how increased electrification for the transportation sector for the post-2020 period should be accounted for in the allocation methodology for EDUs. It is important to ensure any method used to calculate any allocation for increased electrification is as accurate and verifiable as the methods used to allocate for industrial sectors for product-based allocation. It also would need to reflect the GHG profile of the electricity being used. Since there is a limited number of allowances, which gets smaller over time, it is critical that any freely allocated allowances are equitably provided to all covered entities for the purposes of leakage prevention and ratepayer benefit.

Allocation for Purchased Electricity Starting in 2021

Though not proposed as part of these proposed amendments, staff expects that later amendments will propose a change in the way that CARB allocates for industrial covered entity purchased electricity emissions starting with industrial allocation of vintage 2021 allowances. Currently, allowance allocation to industrial entities accounts for on-site covered emissions and the emissions associated with purchased steam and

excludes the emissions associated with sold electricity and steam. CARB did not calculate initial benchmarks to include the emissions associated with purchased electricity because it was not clear how EDUs—especially investor-owned utilities (IOUs), which are regulated by the California Public Utilities Commission (CPUC)—would set industrial electricity rates under the Program. Instead, CARB allocated the allowances associated with those industrial purchased electricity emissions to EDUs. After the calculation by CARB of initial energy- and product-based benchmarks, CPUC subsequently required all IOUs to pass through the cost of compliance with the Program (sometimes called the "carbon cost") to all ratepayers, including industrial entities. SB 1018 requires CPUC and the IOUs to return IOU-allocated allowance value (from their allocated allowance auction proceeds) to industrial entities. CPUC has chosen to require that IOUs return this value to industrial entities using product- and energy-based benchmarks comparable to CARB's benchmarks. This process has been slow to implement, and CPUC has requested that CARB directly allocate allowances to industrial covered entities to cover the carbon cost associated with their purchased electricity. CARB staff supports this request.

Having a single agency distribute this value will ensure that allocation is done in a manner that is timely and consistent with the Regulation, and will ensure that POU and electrical cooperative (co-op) industrial covered entities are provided the same leakage protection as IOU customers (as no regulations or statutes require leakage protection for POU and co-op industrial customers). Staff has seen inconsistent carbon cost compensation for covered industrial entities that are customers of POUs and electrical co-ops compared to customers of IOUs (as noted in the annual EDU use of allocated allowance value reporting required pursuant to section 95892(e) of the Regulation). CARB would continue to provide allowance allocation to EDUs for emissions associated with industrial customers that are not covered entities, since CARB does not have a direct regulatory relationship with those entities. Note that CARB staff is not proposing to place the compliance obligation for purchased electricity on industrial covered entities.

Staff intends to use covered emissions, covered product data, purchased electricity data, and other information reported pursuant to MRR to recalculate all energy- and product-based benchmarks for use beginning with the fourth compliance period, and implement new benchmarks starting with allocation of vintage 2021 allowances. Staff will also continue working with stakeholders to establish new benchmarks for newly covered sectors and for existing sectors for which process changes or new data justify updating current benchmarks. These changes to benchmarks are not currently being proposed; they would be part of a subsequent regulatory package.

Because CARB cannot allocate to different entities for the same emissions, allowances representing purchased electricity emissions for industrial covered entities have been excluded from post-2020 EDU allocations. This change was part of regulatory amendments adopted in 2017.

In addition to making these anticipated revisions to benchmarks, staff will continue reviewing other elements of the current approach to industrial allowance allocation. Since AB 398 requires the Board to report to the Legislature regarding the emissions leakage risk by the end of 2025, staff will continue assessing the leakage risk posed by the Program by discussing with stakeholders and reviewing pertinent economic data on a sector-by-sector basis.

Allocation for EIM Outstanding Emissions

Amendments propose to assess a compliance obligation for Energy Imbalance Market (EIM) Outstanding Emissions on EIM First Purchasers. An initial question from stakeholders on this EIM First Purchaser proposal has been whether the sector has been adequately allocated free allowances to cover this compliance cost and protect ratepayers. Staff's analysis is that these types of emissions are incorporated in the current approach for allowance allocation to electrical distribution utilities (EDUs) through 2030 and that the sector is more than sufficiently allocated for the cost burden associated with the EIM Outstanding Emissions obligation.

EDUs are allocated allowances for the purpose of ratepayer benefit based on the estimated cost burden of compliance with the Program. The allocation is calculated multiple years in advance based on estimated emissions anticipated from the sector, including utility-specific load and supply information. The calculation includes estimates of total potential emissions from each utility, including utility specific emissions estimates related to imported electricity using the best available information at the time. The estimated emissions for both in-state resources and imports are based on the information provided by each utility in the resource supply forms (Form S-2) filed with the California Energy Commission. The allocation methodology also incorporates estimates for residual purchases, purchases needed in excess of the resources listed in Form S-2, to serve California load. Residual purchases are assumed to be met with natural gas or unspecified market purchases.[51] By incorporating the electricity needed to serve load and utility-specific projections of the expected resources to serve that load and residual purchases, the EDU allocation captures the total potential cost burden of the Program on ratepayers, including those emissions related to EIM purchases.

4. Emissions without a Compliance Obligation

The exemption from a compliance obligation for emissions from waste-to-energy facilities expired after the second compliance period, and these entities will receive allowance allocation for transition assistance beginning with vintage 2020 allowance allocation, which will include allocation for emissions in 2018 through 2020. A limited exemption from a compliance obligation for emissions from supplied liquefied natural

[51] *See* CARB 2011 Proposed 15-day Modifications, Appendix A: Staff Proposal for Allocating Allowances to the Electric Sector, p. 4 and CARB 2016 Attachment C, First Notice Of Public Availability Of 15-Day Amendment Text, Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation 2021–2030 Allowance Allocation to Electrical Distribution Utilities , p.10.

gas (LNG) was in place for the second compliance period. There was a disconnect between the Cap-and-Trade Program covered entity and the MRR reporting entity for emissions associated with supplying LNG such that compliance obligations among LNG suppliers were not equally incurred during the second compliance period. This disparity has been resolved beginning in the third compliance period, so the limited exemption for LNG suppliers ended as planned on January 1, 2018. As a result the proposed amendments remove provisions related to waste-to-energy facility and LNG supplier exemptions because these provisions will no longer be applicable when the proposed amendments come into effect.

Staff also proposes to extend the application deadline for the limited exemption from a compliance obligation for emissions from the production of qualified thermal output from September 2, 2014 to September 2, 2020 to provide an additional opportunity to entities that potentially qualify for this exemption, but had not previously applied for it, to request the exemption.

The Cap-and-Trade Program continues to coordinate with CARB's Low Carbon Fuels Standard Program to incentivize the generation and use of biomass-derived-fuels in California. Staff continues to monitor and assess the development of new types of biomass-derived-fuels, such as renewable gasoline and other renewable fuels, to consider whether emissions from the processing and combustion of these fuels should count toward a compliance obligation under the Cap-and-Trade Program.

5. Electricity Sector

a. GHG accounting for the Energy Imbalance Market (EIM)

In 2014, the California Independent System Operator (CAISO) implemented an Energy Imbalance Market (EIM), which allows out-of-state entities to participate in trading of "imbalance" energy in CAISO's real-time energy markets. When importing out-of-state electricity to serve California load, the EIM market identifies, or "deems," electricity from certain out-of-state sources as dispatched to serve California load in part on the basis of the deemed sources' GHG emissions intensity.

Under AB 32, CARB must account for statewide GHG emissions, including all emissions resulting from the generation of electricity delivered to and consumed in California, whether that electricity is generated in-state or imported to California to serve California load. In 2015, CARB found that 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. Beginning in 2016, CAISO and CARB began coordinating to address GHG accounting inaccuracies in the EIM.

In the 2016 rulemaking, CARB initially proposed to address this issue by assigning a compliance obligation to entities purchasing EIM electricity ("EIM Purchaser") to serve California. CAISO then developed a proposal for a Two-Pass Solution designed to address the GHG accounting issues within the EIM algorithm. This proposal was

intended to more accurately capture incremental behavior, and emissions, from power plants importing power to California in response to changes in California load through the EIM market. CARB staff supported the further development of CAISO's two-pass market optimization approach as a mechanism, through reasonable changes to the CAISO algorithm, to provide a rigorous accounting framework for EIM and efficient and timely optimization.

In 2017, CARB implemented a "bridge solution" to account for the full GHG emissions experienced by the atmosphere from imported electricity under EIM. CARB refers to these emissions as EIM Outstanding Emissions. The "bridge solution" was a temporary solution developed in anticipation of CAISO implementing its Two-Pass Solution at a later date. Under the "bridge solution," CARB currently retires unsold allowances in proportion to EIM Outstanding Emissions.

In late 2017, CAISO conducted testing of the existing EIM and Two-Pass Solution. The testing showed the Two-Pass Solution more fully captured the GHG emissions resulting from electricity serving California load. However, stakeholders identified potential issues with the Two-Pass Solution. Based on stakeholder feedback, CAISO determined not to implement the Two-Pass Solution.

In early 2018, CAISO released a new proposal that would limit the amount of electricity available to support EIM imports to California by constraining individual resource bids to amounts above the base schedule. CAISO anticipates implementing its new proposal in late 2018.

This new proposal will improve the accuracy of GHG emissions accounting, but within any given five-minute interval the EIM model could still be attributing lower emitting resources to serve California load without accurately capturing the emissions resulting from the imported electricity. When the EIM model determines which out-of-state resources are deemed delivered to California in a particular interval, it will always minimize costs by attributing delivery to the cleanest participating resources that elected to be deemed delivered to serve California load. The cleanest resources are deemed delivered regardless of whether the emissions associated with those specific resources are the only emissions used to satisfy the EIM energy transfer to California. Given the inherent design of the EIM model, the system, even with the proposed improvements, would not address all of the EIM GHG accounting concerns. This is also discussed by CAISO in its EIM Greenhouse Gas Enhancements 3rd Revised Draft Final Proposal which states "the proposal reduces secondary dispatches, but does not eliminate them."[52]

CARB supports CAISO's latest proposal to limit the bid quantity and must ensure that our climate programs are accounting for all GHG emissions from electricity serving California load. The proposed EIM Purchaser amendments in this rulemaking package allow CARB to fully account for GHG emissions resulting from electricity generated to

[52] *See* http://www.caiso.com/Documents/ThirdRevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf.

serve California load by assigning a compliance obligation for EIM Purchasers based on EIM Outstanding Emissions. EIM Purchasers would include scheduling coordinators, such as electricity marketers and entities serving California load who purchase imported electricity in EIM. Under the proposed definition of EIM Purchaser, scheduling coordinators for electricity generators located in California with negative imbalances may also be considered EIM Purchasers, if they are serving those imbalances through imported electricity in EIM. CARB will continue to work with CAISO as they assess how the EIM market design could be enhanced to directly account for the full GHG emissions when determining which resources support California load, at which time the EIM Purchaser requirements that are described below and in Chapter 2 of this ISOR would no longer be necessary.

Under the proposed amendments the compliance obligation for EIM Outstanding Emissions would be determined based on the ratio of the EIM Purchaser's EIM purchases on a megawatt hour (MWh)-basis to total EIM purchases serving California load, also measured in MWh, in time periods where EIM Outstanding Emissions are occurring. These changes are designed to ensure the EIM Outstanding Emissions are included as a compliance obligation for those entities serving California load whose participation in the EIM results in those emissions. This proposal only addresses electricity transactions in EIM and does not address an expanded day-ahead market or future grid regionalization. EIM Outstanding Emissions would be treated the same as all other imported electricity in the Program and have the same zero emission threshold for reporting and determining a compliance obligation.

The compliance obligation would go into effect on April 1 2019. This means that in 2020, entities would report 2019 EIM Purchaser data from April 1, 2019 through December 31, 2019 and receive a compliance obligation for the 2020 compliance event, and annually thereafter.

The proposed process for determining and assigning compliance obligations for EIM Purchaser emissions is analogous to the existing reporting requirements and assessment of compliance obligations for natural gas suppliers. Natural gas suppliers report their total GHG emissions attributable to their natural gas deliveries to all end users in California. CARB then calculates the GHG emissions attributable to natural gas delivered to covered entities and subtracts those emissions from the total emissions based on total deliveries. Using this calculated result, CARB assesses a compliance obligation on each natural gas supplier after data are verified.

Under the proposed amendments, some entities will receive a compliance obligation for EIM Purchaser emissions directly while others may see indirect compliance costs depending on their participation in the EIM. Generally, CAISO scheduling coordinators scheduling California load or generation with load imbalances will receive a direct compliance obligation for EIM Purchaser emissions. Some utilities, community choice aggregators (CCAs), and direct access providers served by CAISO scheduling coordinators will likely see indirect compliance costs. With the exception of one state entity, CARB has considered and incorporated the potential cost burden to electricity

ratepayers for these emissions under the current approach for allowance allocation to electrical distribution utilities through 2030. These freely allocated allowances are provided to benefit ratepayers, including CCA ratepayers, and non-covered entity direct access ratepayers, in accordance with AB 32 and the Regulation.

In addition, the proposed amendments make modifications to the "bridge solution" to change the retirement of State-owned allowances to account for EIM Outstanding Emissions from allowances that previously went unsold at auction to unassigned allowances from future budget years. Both the existing Regulation and AB 398 reallocate allowances that remain unsold at auction for more than 24 months to the Reserve, potentially depleting the pool of unsold allowances available to account for EIM Outstanding Emissions. In order to ensure there are sufficient allowances available to account for EIM Outstanding Emissions prior to the implementation of the EIM Purchaser proposal, CARB is proposing to change the source of allowances for retirement for the "bridge solution." Instead of retiring previously unsold allowances, CARB is proposing to retire unassigned allowances from future budget years in the amount of EIM Outstanding Emissions. Under the existing Regulation, allowances will be retired to account for 2017 EIM Outstanding Emissions from the pool of allowances that were previously unsold at auction. Following the implementation of the proposed amendments, allowances will be retired to account for 2018, and first quarter 2019, EIM Outstanding Emissions from the allowance budget two years after the year for which the unsurrendered obligation was due that are not already allocated.

b. Voluntary Renewable Electricity Program Requirements

The Voluntary Renewable Electricity (VRE) Program provisions of the Regulation allow participants to request that CARB retire allowances for eligible renewable electricity generation to ensure that overall emissions reductions are achieved by voluntary renewable electricity generation. Before the Cap-and-Trade Program was in place, it was reasonable to assume that voluntary generation of renewable electricity would reduce emissions because it would replace electricity purchased from a utility. With the economy-wide emissions cap under the Program, substitution of voluntary renewable electricity for power purchased from a utility results in emissions reductions only for the electric sector, but statewide emissions are not necessarily reduced. Instead, when the electric sector requires fewer allowances for compliance, allowances are freed up for use to meet compliance obligations in other sectors, and statewide emissions remain at the level of the cap. The VRE Program enables participants to retire allowances and ensure that statewide capped emissions are reduced by the amount of renewable generation. The quantity of allowances eligible for retirement is calculated by multiplying the amount of eligible electricity generated (MWh) by the default emission factor for unspecified electricity.

CARB staff is proposing minor modifications to clarify the documentation necessary to establish that a generator meets the eligibility requirements for VRE Program participation. The proposed amendments provide clarity on the requirement that generation must not have served load prior to June 2005. The proposed amendments

also require applicants to include documentation of sales and purchase of the electricity or renewable energy credits. This documentation requirement was removed in the prior regulatory amendment cycle. In reviewing the VRE requirements, staff determined that this documentation is necessary to support the eligibility requirements of the program. The proposed amendments also make administrative changes to the signature and attestation requirements to conform to the signature and attestation requirements in other sections of the current Regulation. The proposed amendments are not intended to modify any other aspect of the VRE requirements, including volume of allowances set aside for the VRE Program, or to change any accounting provisions.

6. Registration in CITSS

Staff proposes changes to the tracking system registration requirements to improve efficiency of the user registration process, prevent accumulation of incomplete user registrations for individuals that do not complete the process, and clarify a tracking system restriction. Staff proposes allowing CARB to deny user registration if a registrant does not provide Know-Your-Customer documentation in a timely manner (e.g., within 30 days). Staff also proposes a clarification that an individual may only have one account in the tracking system, regardless of jurisdiction of registration.

7. Auction and Reserve Sale Administration

a. Format for Auction of California GHG Allowances

Staff proposes a change to Auction Reserve Price announcement timing to allow for a joint announcement with linked jurisdictions each year. Staff also proposes changes to clarify the order of sale for allowances used to fulfill an untimely surrender obligation as well as the disposition of these allowances if they remain unsold in an undersubscribed auction. These changes are necessary to add precision to the format of joint auctions.

b. Auction and Reserve Sale Application

Staff proposes changes to clarify the relationship between auction eligibility requirements and the notice of intent to bid and auction participation approval requirements. An entity must provide auction eligibility information as described in section 95912(d) and inform the Auction Administrator of its intent to bid at least 30 days prior to an auction in which it intends to participate as described in section 95912(f) [new section 95912(e)], even if the Executive Officer has approved the entity's auction participant for a prior auction.

Staff also proposes a change to clarify that letters of credit and bonds submitted as bid guarantees must allow the financial services administrator to make payment requests electronically via facsimile or other electronic forms accepted by the financial services administrator. This change is necessary to ensure financial settlement of an auction is completed in a timely manner.

Staff also proposes changes to Reserve sale application requirements for consistency with the auction application approval process, where applicable, and to reflect the actions required in the tracking system to facilitate participation in a Reserve sale.

8. Program Administration

a. Retiring Allowances for Bankruptcy

In light of the potential for outstanding compliance obligations to be owed due to bankruptcy scenarios, CARB staff is proposing amendments to retire allowances to account for such outstanding compliance obligations from the allowance budget two years after the current allowance budget year that is not already allocated to entities. This change will be implemented starting in 2019. This retirement will ensure the environmental integrity of the Program, and the use of future vintage allowances from the allowance budget two years after the current allowance budget year that is not already allocated to entities a sufficient number of allowances that have yet to be allocated or auctioned to entities. Staff believe that the proposed requirements still achieve the targeted Program emissions cap, while addressing any unforeseen market impacts caused by bankruptcy cases that are not otherwise addressed by section 95835(b). This is the same mechanism as described above that will be used to cover EIM Outstanding Emissions in 2018 and the first quarter of 2019.

b. Clarification on Use of Compliance Instruments

CARB has seen that recently other programs have referenced the possible use of Cap-and-Trade Program compliance instruments for uses other than fulfilling compliance obligations under the Cap-and-Trade Regulation. Compliance instruments issued by CARB may only be used for the designated purposes in the Cap-and-Trade Program, and staff has proposed a modification to the Regulation to expressly state this. This provision is intended to clarify that compliance instruments issued by CARB cannot be used by entities to meet requirements in other regulatory programs.

9. Ontario Linkage

On June 15, 2018, following the issuance of a press release by the incoming Government of Ontario indicating that Ontario would repeal its cap-and-trade program, California and Québec modified the Compliance Instrument Tracking System Service (CITSS) to suspend transfers of compliance instruments between entities registered in Ontario and entities registered either in California or Québec. On that same date, Ontario informed California and Québec that it would not participate in the August 2018 joint auction. On July 3, 2018, the Ontario government published a regulation (386/18) revoking Ontario's cap-and-trade regulation (144/16). This regulation also prohibits Ontario's cap-and-trade participants from purchasing, selling, trading or otherwise dealing with emission allowances and credits (compliance instruments). Thus, all accounts registered in Ontario have been suspended.

Based on these actions, staff proposes amendments to clarify provisions in section 95912 related to amending auction notices, as well as delaying, rescheduling, or canceling auctions. Staff is also proposing amendments to sections 96011 and 95942 to further clarify the Executive Officer's actions and process to protect the environmental stringency of the California Program through limiting transfers in or out of holding accounts and through suspending, revoking, or repealing an approved linkage in the event the linked jurisdiction has taken an official act to revoke, repeal, or indefinitely suspend its greenhouse gas cap-and-trade program such that its program could no longer meet the SB 1018 (Gov. Code, §§ 12894(f) and (g)) linkage requirements. These proposed amendments also clarify that Ontario-issued compliance instruments currently held in California entity accounts continue to remain valid for compliance and trading, but no new transfers of instruments after June 15, 2018 would be accepted. Additional proposed amendments to section 95920 also clarify how holding limits are calculated when one linked program is no longer in effect.

Finally, as of June 15, 2018, there are more compliance instruments held in California and Québec accounts than the total number of compliance instruments released by those two jurisdictions alone. This small surplus represents approximately 1 percent of the total allowances in California and Québec entity accounts for vintage years through 2021. Staff is proposing amendments to enable the cancelation or issuance of additional allowances to ensure the environmental stringency of the California Cap-and-Trade Program is maintained as if there had not been a linkage approved with the External GHG ETS.

10. Other Assessments

AB 398 directs CARB to "[e]valuate and address concerns related to overallocation in the state board's determination of the available allowances for years 2021 to 2030, inclusive, as appropriate." It also directs CARB to "[e]stablish allowance banking rules that discourage speculation, avoid financial windfalls, and consider the impacts on complying entities and volatility in the market." Following the four public workshops from October 2017 to June 2018, reassessment of existing cap setting and banking rules, and stakeholder comments, staff is not proposing any amendments to the banking rules or to the post-2020 allowance budgets approved by the Board in 2017. Staff has included an analysis of the stringency of the caps with respect to overallocation concerns and with respect to banking rules in Appendix D.

III. SUMMARY OF SPECIFIC PURPOSE OF AND RATIONALE FOR EACH ADOPTION, AMENDMENT, OR REPEAL

This chapter provides a summary of the specific purpose of each proposed amendment and the rationale for CARB staff's determination of why the proposed amendments are reasonably necessary to carry out the purpose of the provisions of law they are clarifying and to address the problem as described in Chapter II above. The proposed amendments are shown in Appendix A: Proposed Regulation Order.

The following summary does not include all non-substantive modifications that correct typographical or grammatical errors, change numbering or formatting, or improve clarity without changing any meaning. For a complete account of all modifications in the proposed amendments, refer to the underline and strikeout sections of the Regulation in Appendix A.

Subarticle 2: Purpose and Definitions

Section 95802. Definitions.

Summary of Section 95802(a) New Definition of "Energy Imbalance Market Outstanding Emissions" or "EIM Outstanding Emissions."
A new definition of "Energy Imbalance Market Outstanding Emissions" or "EIM Outstanding Emissions" is added.

Rationale for Section 95802(a) New Definition of "Energy Imbalance Market Outstanding Emissions" or "EIM Outstanding Emissions."
This new definition is necessary for consistency in terminology with MRR, and to ensure clarity in the compliance obligation through March 31, 2019 and the aggregate compliance obligation assigned to EIM Purchasers starting April 1, 2019.

Summary of Section 95802(a) New Definition of "Energy Imbalance Market Purchaser" or "EIM Purchaser."
A new definition of "Energy Imbalance Market Purchaser" or "EIM Purchaser" is added.

Rationale for Section 95802(a) New Definition of "Energy Imbalance Market Purchaser or EIM Purchaser."
This new definition is necessary due to the addition of EIM Purchasers as covered entities in the Program pursuant to section 95811(b)(3). Beginning April 1, 2019, EIM Purchasers will incur a compliance obligation for their share of EIM Outstanding Emissions.

Summary of Section 95802(a) New Definition of "Energy Imbalance Market Purchaser Emissions" or "EIM Purchaser Emissions."
A new definition of "Energy Imbalance Market Purchaser Emissions" or "EIM Purchaser Emissions" is added.

Rationale for Section 95802(a) New Definition of "Energy Imbalance Market Purchaser Emissions" or "EIM Purchaser Emissions."
This new definition is necessary to identify the share of EIM Outstanding Emissions for which a specific EIM Purchaser has a compliance obligation.

Summary of Section 95802(a) New Definition of "Environmental Stringency."
A new definition of "Environmental Stringency" is added.

Rationale for Section 95802(a) New Definition of "Environmental Stringency."
This new definition is necessary to ensure that new provisions in sections 95912, 95921, 95942, and 96011 are clearly understood to refer to protecting the ability of the Cap-and-Trade Program to reduce GHGs through its very design, including through declining allowance budgets.

Summary of Section 95802(a) Definition of "First Deliverer of Electricity."
This definition is modified to include EIM Purchasers in the definition of "First Deliverer of Electricity."

Rationale for Section 95802(a) Definition of "First Deliverer of Electricity."
This change is necessary to reflect the inclusion of EIM Purchasers as covered entities in the Program as first deliverers of electricity.

Summary of Section 95802(a) Definition of "Initial Crediting Period."
The definition of "Initial Crediting Period" is revised for clarification

Rationale for Section 95802(a) Definition of "Initial Crediting Period."
The proposed changes clarify the begin date of the Initial Crediting Period, and changing "received" to "approved" clarifies that an initial crediting period begins not just because an Offset Verification Statement is submitted to ARB but because an Offset Verification Statement is approved by ARB. This clarifies that the start of an initial crediting period would be determined when offset verification services are complete for the offset project's first reporting period instead of before offset verification services are complete.

Summary of Section 95802(a) Definition of "Legacy Contract Emissions."
The definition of "Legacy Contract Emissions" is revised to add a reference to legacy contract generators without industrial counterparties.

Rationale for Section 95802(a) Definition of "Legacy Contract Emissions."
Adding the reference to legacy contract generators without industrial counterparties is necessary to accommodate the changes to section 95894.

Summary of Section 95802(a) New Definition of "Legacy Contract Generator Without an Industrial Counterparty."
The new definition of "Legacy Contract Generator Without an Industrial Counterparty" is added.

Rationale for Section 95802(a) New Definition of "Legacy Contract Generator Without an Industrial Counterparty."
Defining legacy contract generators without industrial counterparties is necessary to accommodate the changes to section 95894.

Summary of Section 95802(a) New Definition of "Lobbying."
A definition for "lobbying" is added.

Rationale for Section 95802(a) New Definition of “Lobbying.”
This definition is necessary to accommodate changes to sections 95982(d)(7) and 95983(d)(7) and clarifies the meaning of lobbying as a prohibited use of allowance value allocated to electrical distribution utilities and natural gas suppliers.

Summary of Section 95802(a) New Definition of “Price Ceiling.”
A new definition of “Price Ceiling” is added.

Rationale for Section 95802(a) New Definition of “Price Ceiling.”
This new definition is necessary to accommodate new section 95915, and clarifies what constitutes the AB 398 required price ceiling. AB 398 requires a price ceiling, and there was not previously a definition of the term “Price Ceiling” in the Regulation. The addition of this definition is necessary to ensure the term is understood by market participants.

Summary of Section 95802(a) New Definition of “Price Ceiling Account.”
A new definition of “Price Ceiling Account” is added.

Rationale for Section 95802(a) New Definition of “Price Ceiling Account.”
This new definition is necessary to accommodate new section 95915, and to clarify that allowances and price ceiling units available for sale at the price ceiling are placed into a single account in the tracking system.

Summary of Section 95802(a) New Definition of “Price Ceiling Unit.”
A new definition of “Price Ceiling Unit” is added.

Rationale for Section 95802(a) New Definition of “Price Ceiling Unit.”
This new definition is necessary to clarify new terminology used in section 95915.

Summary of Section 95802(a) Definition of “Renewable Energy Credit” or “REC.”
The definition of “Renewable Energy Credit” or “REC” is modified to update the reference to the most recent California Energy Commission Renewable Portfolio Standard Guidebook, correct typographical errors, and add the text “which is hereby incorporated by reference.”

Rationale for Section 95802(a) Definition of “Renewable Energy Credit” or “REC.”
This change is necessary correct typographical errors without changing any meaning, to reflect the latest edition of the California Energy Commission Renewable Portfolio Standard Guidebook, and to specify that this document is incorporated by reference.

Summary of Section 95802(a) Definition of “Reporting Period.”
The definition for reporting period is modified to allow the last Reporting Period in a crediting period to be longer than 12 months and to allow Livestock offset projects to have a Reporting Period less than 12 consecutive months to transition to a Low Carbon Fuels Standard pathway.

Rationale for Section 95802(a) Definition of "Reporting Period."
This change is necessary to improve clarity and consistency on the number of months may be included in a reporting period. Some projects were previously allowed longer crediting periods depending upon the length of time they chose for the first reporting period, which was allowed to be between 6 and 24 months. Projects that had an initial reporting period less than 24 months may now effectively put any months not in the initial reporting period into the final reporting period of the initial crediting period. This will allow all projects to have an equal opportunity to have eleven years in their initial crediting period. This will also allow project operators added flexibility to change the beginning date of the reporting periods in a subsequent crediting period if the project operator desires. The modification also allows Livestock projects to transition to a Low Carbon Fuel Standard pathway without loss of time or crediting. The offset protocol requires a twelve consecutive month Reporting Period, and the Low Carbon Fuel Standard has a calendar year reporting period, so it is possible that the two reporting periods would not align and credits could be lost unless the offsets Reporting Period was allowed to be shorter.

Summary of Section 95802(a) New Definition of "Reserve Allowances."
The new definition of "reserve allowances" defines this as allowances directly allocated to the Allowance Price Containment Reserve pursuant to sections 95870(a) or 95971(a), or non-vintaged allowances issued by an External Greenhouse Gas Emissions Trading System to which California has linked its Cap-and-Trade Program pursuant to subarticle 12, allocated to a reserve account.

Rationale for Section 95802(a) New Definition of "Reserve Allowances."
Defining "reserve allowance" is necessary to accommodate changes to sections 95856(b)(2)(A), 95856(h)(1)(B), and 95856(h)(2)(B).

Summary of Section 95802(a) Definition of "True-up allowance amount."
The definition of "True-up allowance amount" was revised to add references to sections 95891(c), 95891(f)(1), and 95894(d)-(e).

Rationale for Section 95802(a) Definition of "True-up allowance amount."
The addition of the references was needed in order to include the energy-based allocation in section 95891(c), which now includes true-up, new section 95891(f)(1), which adds a calculation that includes true-up for waste-to-energy facilities, and new sections 95894(d)-(e), which also adds true-up.

Summary of Section 95802(a) New Definition of "Volumetric."
A definition of "volumetric" is added.

Rationale for Section 95802(a) New Definition of "Volumetric."
This definition was added to clarify the meaning of the term "volumetric" in the Regulation. Return of allocated allowance auction proceeds in a volumetric manner is prohibited in sections 95892 and 95893 of the Regulation.

Section 95802(b) - the acronym “CARB” was added to “ARB” to designate the California Air Resources Board, as both acronyms are used to refer to the California Air Resources Board.

Subarticle 3: Applicability

§ 95811. Covered Entities

Summary of Section 95811(b)(1)-(2).
The term “or” is removed from section 95811(b)(1) and the term “and” is added to section 95811(b)(2).

Rationale for Section 95811(b)(1)-(2).
This change is necessary given the addition of 95811(b)(3).

Summary of New Section 95811(b)(3).
EIM Purchasers are added to the list of covered entities as first deliverers of electricity.

Rationale for New Section 95811(b)(3).
This change is necessary to incorporate EIM Purchasers into the Program as covered entities responsible for the compliance obligation for EIM Outstanding Emissions. Under AB 32, CARB must account for statewide GHG emissions, including all emissions resulting from the generation of electricity delivered to and consumed in California, whether that electricity is generated in-state or imported to California to serve California load. In 2015, CARB found that the EIM design does not account for the full GHG emissions experienced by the atmosphere from imported electricity under EIM and results in emissions leakage.

This change is necessary to assess the compliance obligation for EIM Outstanding Emissions on EIM Purchasers. The inclusion of EIM Purchasers in section 95811(b)(3) is necessary to ensure that the compliance obligation for EIM Outstanding Emissions associated with the electricity dispatched to serve California load through EIM can be appropriately attributed to entities serving load in California.

§ 95812. Inclusion Thresholds for Covered Entities.

Summary of New Section 95812(c)(2)(C).
New section 95812(c)(2)(C) is added to specify the threshold of emissions for EIM Purchaser compliance obligation.

Rationale for New Section 95812(c)(2)(C).
This provision is necessary to specify the emissions threshold for EIM Purchaser Emissions. EIM Purchasers will receive a share of the EIM Outstanding Emissions based on their relative participation in EIM to serve California load. In order to ensure that the EIM Outstanding Emissions are fully accounted for by EIM Purchasers, and

consistent with emissions threshold for imported electricity, the EIM Purchaser emissions threshold is zero.

Summary of Section 95812(d).
The proposed change adds "(c)" to the reference to section "95835" and deletes the reference to section 95851(d).

Rationale for Section 95812(d).
The proposed change is needed to specify the correct reference for clarity, and to reflect the deletion of section 95851(d).

Summary of Section 95812(d)(3) [deleted].
Section 95812(d)(3) is deleted.

Rationale for Section 95812(d)(3) [deleted].
This section applied only to an exemption of Waste-to-Energy Facilities that ended in 2017. As of reporting year 2018, there is no distinction in the Program coverage between these facilities and other stationary combustion facilities. As such, the paragraph was no longer necessary and was deleted.

§ 95813. Opt-In Covered Entities.

Summary of Section 95813(c).
The proposed change adds "(b)" to the reference to section "95813" and capitalizes "program."

Rationale for Section 95813(c).
The proposed change is needed to specify the correct reference for clarity, and to make a typographical change that does not change meaning.

Subarticle 4: Compliance instruments

§ 95820. Compliance Instruments Issued by the Air Resources Board.

Summary of New Section 95820(d).
New section 95820(d) is added to specify that compliance instruments issued by CARB may only be used for the purposes expressly set forth in section 95820.

Rationale for New Section 95820(d).
The change is needed to clarify and expressly state that compliance instruments issued by CARB may only be used for the designated purposes in the Cap-and-Trade Program. For instance, another regulatory program may not require the retirement of compliance instruments from the Cap-and-Trade Program to qualify as compliance with that other regulatory program, independent of the designated purposes of these compliance instruments in the Cap-and-Trade Program.

Summary of New Section 95820(e)(1)-(2).
New section 95820(e) is added to include price ceiling units issued pursuant to section 95915 as eligible compliance instruments. Subparagraphs (1) and (2) specify that the Executive Officer may issue these units and that surrender of these units shall be subject to the requirements of section 95915.

Rationale for New Section 95820(e).
The addition of this new section is necessary to ensure covered entities understand which compliance instruments, including newly established price ceiling units, are eligible for compliance, and to cross reference the section of the regulation (new section 95915) which specifies the requirements and procedure for these units.

Subarticle 5: Registration and Accounts

§ 95830. Registration with ARB.

Summary of Section 95830(c)(7)
Section 95830(c)(7) is amended to incorporate grammatical edits for clarity.

Rationale for Section 95830(c)(7).
The change to section 95830(c)(7) is required to clarify that the roles of primary account representative, alternate account representative, and account viewing agent are with respect to registered entities.

Summary of Section 95830(c)(7)(A).
Section 95830(c)(7)(A) is amended to clarify that an individual can only have one user registration in the tracking system regardless of the jurisdiction of registration for any linked or non-linked greenhouse gas (GHG) emissions trading system that uses the tracking system.

Rationale for Section 95830(c)(7)(A).
This change to section 95830(c)(7)(A) is necessary to ensure consistency between the requirements for user registration and the reasons a user registration may be denied pursuant to section 95830(c)(8)(E) and to clarify that a user cannot have multiple user registrations in the tracking system, including a user registration related to a non-linked GHG emissions trading system.

Summary of Section 95830(c)(8)(D).
Section 95830(c)(8)(D) is amended to allow CARB to deny user registration if required Know-Your-Customer documentation is not provided within 30 days of submittal of a user registration request in the tracking system.

Rationale for Section 95830(c)(8)(D).
The change to section 95830(c)(8)(D) is necessary to improve efficiency of the user registration process and prevent accumulation of incomplete user registrations for individuals that do not complete the process.

Summary of Section 95830(c)(8)(E).
Section 95830(c)(8)(E) is amended to specify that an individual can only have one user registration in the tracking system regardless of the jurisdiction of registration. This restriction applies to all jurisdictions that use the tracking system, regardless of whether the jurisdictions are linked to the California Cap-and-Trade Program.

Rationale for Section 95830(c)(8)(E).
The change to section 95830(c)(8)(E) is necessary to clarify that a user cannot have multiple user registrations in the tracking system, including a user registration related to a non-linked GHG emissions trading system.

§ 95831. Account Types.

Summary of Section 95831(a)(6)(F).
Waste-to-energy facilities are added to the list of entities whom will have allowances transferred from their annual allocation holding account to their general holding account on January 1.

Rationale for Section 95831(a)(6)(F).
The proposed changes are necessary to facilitate allowance allocation to waste-to-energy facilities.

Summary of Section 95831(a)(6)(H) [deleted].
Section 95831(a)(6)(H) is deleted.

Rationale for Section 95831(a)(6)(H) [deleted].
This section applied only to the previous waste-to-energy exemption and is no longer needed. As of reporting year 2018, waste-to-energy facilities are allocated allowances into their allowance allocation holding account which is transferred to their general holding account in January 1, pursuant to 95831(a)(6)(F).

Summary of Section 95831(a)(6)(I) [deleted].
Section 95831(a)(6)(I) is deleted.

Rationale for Section 95831(a)(6)(I) [deleted].
This section applied only to the previous liquefied natural gas exemption that ended January 1, 2018 and is no longer needed.

Summary of Section 95831(b)(4)(A).
The proposed change adds a reference to section 95871(a).

Rationale for Section 95831(b)(4)(A).
The proposed change is needed to specify the correct references for clarity.

Summary of Section 95831(b)(8).
The new section creates a holding account under the control of the Executive Officer called the Price Ceiling Account. This account will contain allowances required to be made available at the price ceiling pursuant to section 95913(h) and price ceiling units approved by the Executive Officer pursuant to section 95915 (h).

Rationale for Section 95831(b)(8).
The new section is needed to create an account that can hold allowances and a new type of compliance instrument. AB 398 mandated that CARB create a price ceiling at which covered entities could purchase a certain amount of allowances and additional reductions (e.g., price ceiling units) at a fixed price. As the new price ceiling units are to be serialized compliance instruments in the same manner as offsets and allowances, CARB needs to create a new CITSS account to hold these instruments until they are purchased by covered entities.

§ 95834. Know-Your Customer Requirements.

Summary of Section 95834(b).
Section 95834(b) is amended to clarify that an individual must submit all documentation required pursuant to section 95834 within 30 days of submitting a user registration request in the tracking system.

Rationale for Section 95834(b).
The clarification is necessary to improve efficiency of the user registration process and prevent accumulation of incomplete user registrations for individuals that do not complete the process. This amendment is also necessary for consistency between the requirements for user registration and the proposed amendments related to reasons a user registration may be denied pursuant to section 95830(c)(8).

Summary of Section 95834(b)(4)(A).
Section 95834(b)(4)(A) is amended to require bank contact information rather than bank address.

Rationale for Section 95834(b)(4)(A).
The change to section 95834(b)(4)(A) is required because bank statements often no longer have physical addresses but instead refer to web pages for contact information.

Subarticle 6: California Greenhouse Gas Allowance Budgets

§ 95841. Annual Allowance Budgets for Calendar Years 2013-2050.

Summary of Section 95841, Table 6-1 and Table 6-2.
Tables 6-1 and 6-2 are amended to remove the column designating Compliance Periods. Table 6-1 is also modified to remove capitalization of “Millions” and “Allowances” from the heading of the last column.

Rationale for Section 95841, Table 6-1 and Table 6-2.
For the post-2020 period, compliance period designations would be different depending on whether U.S. EPA approves California's plan for compliance with the Clean Power Plan. Table 6-2 previously listed only the compliance periods assuming U.S. EPA approval of California's plan for compliance with the Clean Power Plan. For clarity, this columns is deleted from Table 6-2, and the Table 6-1 "Compliance Period" column is also deleted for consistency. Compliance periods are specified in section 95840 of the Regulation, so the column designations are not needed. Capitalization is changed for consistency and doesn't change meaning.

§ 95841.1 Voluntary Renewable Electricity.

Summary of Section 95841.1(a).
The proposed change adds "Voluntary Renewable Electricity" to the title and deletes "be new" in reference to generation. The change further specifies that eligible facilities must not "have an online date or have" served load prior to July 1, 2005.

Rationale for Section 95841.1(a).
The proposed change adds "Voluntary Renewable Electricity" to the paragraph title to clarify which program requirements this section is addressing. The words "be new" were ambiguous and were deleted to clarify this requirement. This change further clarifies the eligibility of facilities is based on online date and date the facility first served load as either of these terms may be used in the supporting documentation.

Summary of New Section 95841.1(b)(1)(E).
The proposed change adds a new section to require documentation of the sale to and purchase of the electricity or RECs associated with the eligible generation.

Rationale for New Section 95841.1(b)(1)(E).
Section 95841.1(b)(1)(E) is added to require documentation that was required previously and then removed in the 2016 amendments to the Regulation. Staff finds this documentation is in fact necessary to support the demonstration of eligibility of the generation. The requirement also supports robust oversight and verification of claims for eligible generation under the Voluntary Renewable Electricity Program.

Summary of Section 95841.1(b)(1)(E) [New Section 95841.1(b)(1)(F)].
This section is renumbered to be new section 95841.1(b)(1)(F).

Rationale for Section 95841.1(b)(1)(E) [New Section 95841.1(b)(1)(F)].
Section renumbered to reflect addition of 95841.1(b)(1)(E).

Summary of Section 95841.1(b)(1)(E)1. [New Section 95841.1(b)(1)(F)1.].
The proposed change replaces "attest, in writing" with "submit a signed attestation."

Rationale for Section 95841.1(b)(1)(E)1. [New Section 95841.1(b)(1)(F)1.].
This change aligns signature and attestation requirements with requirements in other sections of the Regulation.

Summary of Section 95841.1(b)(1)(E)2. [New Section 95841.1(b)(1)(F)2.].
The proposed change replaces “attest, in writing” with “submit a signed attestation.”

Rationale for Section 95841.1(b)(1)(E)2. [New Section 95841.1(b)(1)(F)2.].
This change aligns signature and attestation requirements with requirements in other sections of the Regulation.

Subarticle 7: Compliance Requirements for Covered Entities

§ 95851. Phase-in of Compliance Obligation for Covered Entities.

Summary of Section 95851(d) [deleted].
Section 95851(d) is deleted.

Rationale for Section 95851(d) [deleted].
This section applied only to an exemption of Waste-to-Energy Facilities that ended in 2017. As of reporting year 2018, there is no distinction in the Program coverage between these facilities and other stationary combustion facilities.

§ 95852. Emission Categories Used to Calculate Compliance Obligations.

Summary of Section 95852(b)
Text is added to section 95892(b) to include EIM Purchasers Emissions.

Rationale for Section 95852(b)
The addition of EIM Purchaser Emissions to section 95892(b) is necessary in order to include the EIM Purchaser Emissions as a category from which a compliance obligation may be assigned to First Deliverers of Electricity.

Summary of Section 95852(b)(1)(D).
Text requiring the annual retirement of State-owned allowances in the amount of EIM Outstanding Emissions is moved from section 95852(b)(1)(D) to section 95911(h)(2), and the original text is modified. Section 95852(b)(1)(D) of the current Regulation requires the source of State-owned allowances for retirement to be current vintage allowances that had remained unsold for more than 24 months. Section 95911(h)(2) of the proposed amendments would require the source of State-owned allowances for retirement to be allowances from the allowance budget two years after the year for which the unsurrendered obligation was due that are not already allocated pursuant to sections 95870(a) and 95871(a).

New text in section 95852(b)(1)(D) specifies that the compliance obligation for EIM Purchasers will begin April 1, 2019 and that the compliance obligation will be calculated as set forth in MRR section 95111(h)(3).

Rationale for Section 95852(b)(1)(D).
The text on allowance retirement to recognize EIM Outstanding Emissions is moved from section 95852(b)(1)(D) to section 95911(h)(2) to align with requirements in section 95911(h). The change improves clarity in the Regulation by ensuring the requirements are together in one section.

The new text in section 95852(b)(1)(D) is needed to specify that the EIM Purchasers only start incurring a compliance obligation beginning April 1, 2019 and that the compliance obligation for EIM Purchaser Emissions will be calculated as defined in new MRR section 95111(h)(3).

Summary of Section 95852(b)(1)(D)1 [deleted].
Previous text describing the calculation of EIM Outstanding Emissions in section 95852(b)(1)(D)1 is moved to new section 95852(b)(1)(E). The method of calculating EIM Outstanding Emissions will change beginning April 1, 2019, the date when EIM Purchasers begin incurring a compliance obligation. The current calculation for EIM Outstanding Emissions prior to April 1, 2019, remains unchanged.

Rationale for Section 95852(b)(1)(D)1 [deleted].
This provision has been moved to section 95852(b)(1)(E).

Summary of Section 95852(b)(1)(D)2 [deleted].
Text describing the timing of retirement of State-owned allowances to recognize EIM Outstanding Emissions is moved from section 95852(b)(1)(D)2 to section 95911(h)(2).

Rationale for Section 95852(b)(1)(D)2 [deleted].
The text on the timing of allowance retirement to recognize EIM Outstanding Emissions is moved from section 95852(b)(1)(D)2 to section 95911(h)(2).

Summary of Section 95852(b)(1)(D)3 [deleted].
Section 95852(b)(1)(D)3 is deleted.

Rationale for Section 95852(b)(1)(D)3 [deleted].
The deletion of this section is necessary as the process for accounting for EIM Outstanding Emissions is now in section 95911(h)(2).

Summary of New Section 95852(b)(1)(E).
New section 95852(b)(1)(E) specifies the calculation of EIM Outstanding Emissions.

Rationale for New Section 95852(b)(1)(E).
New section 95852(b)(1)(E) is necessary to ensure EIM Purchasers understand how EIM Outstanding Emissions will be accounted for and the timing of when the EIM

Purchasers will be responsible for resulting compliance obligations. The method of calculating EIM Outstanding Emissions will change beginning April 1, 2019, the date when EIM Purchasers begin incurring a compliance obligation. Through March 31, 2019, EIM Outstanding Emissions are calculated as in the current Regulation pursuant to MRR section 95111(h)(1), and these emissions are accounted for by allowance retirement pursuant to section 95911(h)(2). Starting April 1, 2019, EIM Outstanding Emissions are calculated pursuant to MRR section 95111(h)(2), and the compliance obligation for these emissions is placed on EIM Purchasers pursuant to section 95852(b)(1)(D).

EIM Outstanding Emissions are the emissions supporting EIM imports to serve California load, that are not otherwise accounted for through the compliance obligation placed on resources identified by EIM as having supported EIM transfers. Beginning April 1, 2019, the EIM Outstanding Emissions, an aggregate total of the unaccounted-for emissions, will be apportioned as a compliance obligation to EIM Purchasers. Within each emissions year, the sum of all EIM Purchaser's EIM Purchaser Emissions compliance obligation is equal to the EIM Outstanding Emissions.

The EIM is an extension of CAISO's 5-minute market balancing short-term supply and demand for electricity within the CAISO and EIM footprint. Beginning April 1, 2019, annual EIM Outstanding Emissions will also be calculated based on 5-minute interval data rather than aggregated annual data to align with the timing of the implementation of the EIM Purchaser compliance obligation. Transitioning to 5-minute interval data is necessary to accurately distribute the EIM Purchaser Emissions to each EIM Purchaser in proportion to their benefit from EIM transfers supporting California load. By requiring 5-minute interval reporting, the change ensures that EIM Purchasers only receive a compliance obligation based on energy imbalances, as defined in MRR Section 95111(h)(3)(B), in intervals with EIM transfers. Conversely, in the absence of 5-minute interval reporting, staff determined that EIM Purchasers may receive a compliance obligation based on energy imbalances, as defined in MRR Section 95111(h)(3)(B), in intervals without EIM transfers.

Summary of Section 95852(i).
This section is modified to change the reference to section 95852(l) to be 95852(k).

Rationale for Section 95852(i).
This change is needed because section 95852(k) was deleted and section 95852(l) became the new 95852(k).

Summary of Section 95852(j)(4).
The date to apply for the limited exemption of Emissions from the Production of Qualified Thermal Output is changed from September 2, 2014 to September 2, 2020.

Rationale for Section 95852(j)(4).
The application date is extended to allow potential entities that previously had not applied for this exemption to make their request through the third compliance period.

Summary of Section 95852(k) [deleted].
Section 95852(k) is deleted.

Rationale for Section 95852(k) [deleted].
This section applied only to an exemption of Waste-to-Energy Facilities that ended in 2017. As of budget year 2018, Waste-to-Energy Facilities are allocated for transition assistance pursuant to section 95891(f).

Summary of Section 95852(l) [New Section 95852(k)].
Section 95852(l) is renumbered to be section 95852(k).

Rationale for Section 95852(l) [New Section 95852(k)].
This change is necessary to maintain proper numbering of the regulation.

Summary of Section 95852(l)(1) [deleted].
Section 95852(l) is deleted.

Rationale for Section 95852(l)(1) [deleted].
This section applied only to the previous liquefied natural gas exemption that ended January 1, 2018 and is no longer needed.

§ 95854. Quantitative Usage Limit on Designated Compliance Instruments—Including Offset Credits.

Summary of Section 95854(b).
This section is amended to add quotation marks around defined terms "O," "S," and "L_t," replace "=" with "is", add "the," and remove capitalization. This section is also modified to clarify that the eight percent quantitative offset usage limit applies to compliance periods one, two and three, while a four percent limit applies to compliance period four, and a six percent limit applies to compliance period six and all subsequent compliance periods.

Rationale for Section 95854(b).
Changes to quotation marks, "is," "the," and capitalization are necessary to make this section consistent with rest of the Regulation. The clarifications to the quantitative offset usage limits makes the Regulation compliant with AB 398 requirements with respect to quantitative offset usage limits.

Summary of New Section 95854(c).
New section 95854(c) clarifies that the fifth compliance period is subject to both the four percent quantitative offset usage limit for data years 2024 and 2025, and the six percent quantitative offset usage limit for data year 2026.

Rationale for New Section 95854(c).
This new section is necessary to make the fifth compliance period compliant with AB 398. This section cannot be combined with section 95984(b) because the fifth compliance period spans two quantitative offset usage limits.

Summary of Section 95854(c) [New Section 95854(d)].
This section was re-numbered due to the addition of a new section 95854(c).

Rationale for Section 95854(c) [New Section 95854(d)].
This change is needed to ensure correct numbering given the addition of new section 95854(c).

Summary of New Section 95854(e).
New section 95854(e) specifies that no more than one half of the quantitative offset usage limit for data years 2021-2030 may be met by ARB offset credits from projects that do not provide direct environmental benefits in the State. The new section allows up to one half of a covered entities' quantitative offset usage limit to be met by ARB offset credits that do not provide direct environmental benefits in the State (DEBS), independent from surrendering ARB offset credits that do provide DEBS (i.e., a covered entity is not required to surrender ARB offset credits providing DEBS in order to surrender ARB offset credits that do not provide DEBS).

Rationale for New Section 95854(e).
This new section is necessary to ensure the requirements of AB 398, which limits the usage of ARB offset credits from projects that do not provide direct environmental benefits in the State, are implemented as mandated through the Regulation.

§ 95856. Timely Surrender of Compliance Instruments by a Covered Entity.

Summary of Section 95856(b)(2)(A).
Section 95856(b)(2)(A) is amended to replace references to an allowance purchased from a California Allowance Price Containment Reserve sale and an Allowance Price Containment Reserve Allowance issued by a program approved by ARB pursuant to section 95941, when referring to reserve allowances from linked jurisdictions, with "reserve allowance." The term "reserve allowance" is newly defined in Section 95802.

Rationale for Section 95856(b)(2)(A).
The changes to section 95856(b)(2)(A) are required because linked jurisdictions' regulations do not use the term Allowance Price Containment Reserve. The equivalent terms in linked jurisdictions' regulations are "emission units from the reserve account," "allowances reserved for sales," and "allowance sold from a reserve account."

Summary of Section 95856(e)(1).
Section 95856(e)(1) is amended to replace "equal" with "contribute to" in referencing annual emissions data relative to full compliance period compliance obligations.

Rationale for Section 95856(e)(1).
The term “equal” was used to say that emissions for “any year” equal full compliance period compliance obligations, which is incorrect give that compliance periods are multi-year. “Contribute to” more accurately reflect how emissions from “any year” relate to a full compliance period compliance obligation.

Summary of Section 95856(e)(2).
Section 95856(e)(2) is amended to replace “equals” with “contributes to” and to add text “full compliance period” and “pursuant to section 95853” to describe “compliance obligation.”

Rationale for Section 95856(e)(2).
The term “equals” was used to say that an emissions value for “any year” equal full compliance period compliance obligations, which is incorrect give that compliance periods are multi-year. “Contribute to” more accurately reflect how emissions from “any year” relate to a full compliance period compliance obligation. The addition of the text “full compliance period” and “pursuant to section 95853” to describe “compliance obligation” is done to make this section consistent with section 95856(1).

Summary of Section 95856(h)(1)(B).
Section 95856(h)(1)(B) is amended to replace references to an allowance purchased from a California Allowance Price Containment Reserve sale and an Allowance Price Containment Reserve Allowance issued by a program approved by ARB pursuant to section 95941, when referring to reserve allowances from linked jurisdictions, with “reserve allowance”. The term “reserve allowance” is newly defined in Section 95802. Additionally, Section 95856(h)(1)(B) is amended to include non-vintaged compliance instruments issued by ARB in the order for compliance instruments to be retired from the Compliance Account.

Rationale for Section 95856(h)(1)(B).
The changes to section 95856(h)(1)(B) are required because linked jurisdictions’ regulations do not use the term Allowance Price Containment Reserve. The equivalent terms in linked jurisdictions’ regulations are “emission units from the reserve account,” “allowances reserved for sales,” and “allowance sold from a reserve account.” The changes are also required to account for potential new California compliance instruments issued for price containment points and the price ceiling in the post-2020 Program.

Summary of Section 95856(h)(1)(C).
Section 95856(c) is modified to remove the word “and” at the end, since new section 95856(h)(1)(E) is now added.

Rationale for Section 95856(h)(1)(C).
This change is necessary to accommodate a reordering from the addition of new section 95856(h)(1)(E).

Summary of Section 95856(h)(1)(D).
The proposed changes add references to sections 95891(f)(1), 95891(c), and 95894(d)-(e).

Rationale for Section 95856(h)(1)(D).
These changes are needed to reference the new section 95891(f)(1), which provides a calculation methodology for allocating allowances to waste-to-energy facilities; to add a reference to 95891(c), which now includes an equation for calculating true-up; and to add a reference to new sections 95894(d)-(e), which also include equations for calculating true-up. This change maintains references to the proper sections.

Summary of New Section 95856(h)(1)(E).
New section 95856(h)(1)(E) is added to add price ceiling units as eligible instruments for compliance, and to specify that these units would be the last type of compliance instruments surrendered.

Rationale for New Section 95856(h)(1)(E).
This new section is necessary to ensure clarity in the types of instruments that can be surrendered for compliance and clarity in the order of retirement. Price ceiling units by their nature are only available for purchase when entities cannot access other compliance instruments, and as such, would be the last in the order for retirement.

Summary of Section 95856(h)(2)(B).
Section 95856(h)(2)(B) is amended to replace references to an allowance purchased from a California Allowance Price Containment Reserve sale and an Allowance Price Containment Reserve Allowance issued by a program approved by ARB pursuant to section 95941, when referring to reserve allowances from linked jurisdictions, with "reserve allowance". The term "reserve allowance" is newly defined in Section 95802. Additionally, Section 95856(h)(2)(B) is amended to include non-vintaged compliance instruments issued by ARB in the order for compliance instruments to be retired from the Compliance Account

Rationale for Section 95856(h)(2)(B).
The changes to section 95856(h)(2)(B) are required because linked jurisdictions' regulations do not use the term Allowance Price Containment Reserve. The equivalent terms in linked jurisdictions' regulations are "emission units from the reserve account," "allowances reserved for sales," and "allowance sold from a reserve account." The changes are also required to account for potential new California compliance instruments issued for price containment points and the price ceiling in the post-2020 Program.

Summary of Section 95856(h)(2)(C).
Section 95856(c) is modified to remove the word "and" at the end, since new section 95856(h)(2)(E) is now added.

Rationale for Section 95856(h)(2)(C).
This change is necessary to accommodate a reordering from the addition of new section 95856(h)(2)(E).

Summary of Section 95856(h)(2)(D).
The proposed changes add references to sections 95891(f)(1), 95891(c), and 95894(d)-(e).

Rationale for Section 95856(h)(2)(D).
These changes are needed to reference the new section 95891(f)(1), which provides a calculation methodology for allocating allowances to waste-to-energy facilities; to add a reference to 95891(c), which now includes an equation for calculating true-up; and to add a reference to new sections 95894(d)-(e), which also include equations for calculating true-up. This change maintains references to the proper sections.

Summary of New Section 95856(h)(2)(E).
New section 95856(h)(2)(E) is added to add price ceiling units as eligible instruments for compliance, and to specify that these units would be the last type of compliance instruments surrendered.

Rationale for New Section 95856(h)(2)(E).
This new section is necessary to ensure clarity in the types of instruments that can be surrendered for compliance and clarity in the order of retirement. Price ceiling units by their nature are only available for purchase when entities cannot access other compliance instruments, and as such, would be the last in the order for retirement.

Summary of Section 95856(h)(3).
The proposed changes add references to sections 95891(f)(1), 95891(c), and 95894(d)-(e).

Rationale for Section 95856(h)(3).
These changes are needed to reference the new section 95891(f)(1), which provides a calculation methodology for allocating allowances to waste-to-energy facilities; to add a reference to 95891(c), which now includes an equation for calculating true-up; and to add a reference to new sections 95894(d)-(e), which also include equations for calculating true-up. This change maintains references to the proper sections.

Summary of Section 95856(h)(4).
The proposed changes remove commas and the term “sufficient” and change the references from section 95892(d)(5) to (d)(7).

Rationale for Section 95856(h)(4).
These changes are needed to correct grammar and maintain correct references due to renumbering of 95892(d)(5) to be 95892(d)(7).

Subarticle 8: Disposition of Allowances

§ 95870. Disposition of Vintage 2013-2020 Allowances.

Summary of Section 95870(b)(1).
Section 95870(b)(1) is amended to revise the reference to section 95913(f)(5) to be section 95910(c)(2).

Rationale for Section 95870(b)(1).
This change is needed because the reference to section 95913(f)(5) is no longer correct. The correct reference is section 95910(c)(2).

Summary of Section 95870(b)(2).
Section 95870(b)(1) is amended to revise the reference to section 95913(f)(5) to be section 95910(c)(2).

Rationale for Section 95870(b)(2).
This change is needed because the reference to section 95913(f)(5) is no longer correct. The correct reference is 95910(c)(2).

Summary of Section 95870(i)(1)-(2).
Content from section 95870(i)(1) is deleted and content from 95870(i)(2) is moved up to be part of section 95870(i) and revised to delete a reference to the Reserve borrowing mechanism (section 95870(i)(1)) and to add new references to sections 95870(j) and 95911(h).

Rationale for Section 95870(i)(1)-(2).
The deletion of section 95870(i)(1) is necessary because it contains the source of future vintage allowances that can be sold through the Reserve using the borrowing mechanism from the existing Regulation. AB 398 directed CARB to create a new price ceiling at which entities could purchase allowances designated to be sold at the price ceiling and additional reductions (called price ceiling units pursuant to new section 95915) on a metric-ton for metric-ton basis, as needed. This makes the existing borrowing mechanism unnecessary, so staff is proposing to eliminate it.

The new reference to section 95870(j) is needed to account for the addition of section 95870(j), which provides for allowance allocation to waste-to-energy facilities. The new reference to section 95911(h) is needed to reflect the addition of this new section that addresses the retirement of future vintage allowances to cover unresolved emissions obligations resulting from covered entity bankruptcy or EIM Outstanding Emissions.

The other changes are needed to reflect the renumbering of the section.

Summary of New Section 95870(j).
A new section is added to designate allowances for allocation to waste-to-energy facilities.

Rationale for New Section 95870(j).

The 2016 Regulation amendments that took effect October 1, 2017 ended the limited exemption for waste-to-energy facilities so that, beginning in 2018, waste-to-energy facilities have a compliance obligation and must acquire and surrender compliance instruments. This new section designates allowances for allocation to waste-to-energy facilities for the purposes of transition assistance, as directed by Board Resolution 17-21.

Summary of Section 95870, Table 8-1.

Table 8-1 is revised to change the table title, add a column to specify 100% assistance factors for all industrial activities for 2021-2030, add the general activities "Nitrogenous Fertilizer Manufacturing" and "Lime Manufacturing" to the Nitrogenous Fertilizer Manufacturing (NAICS code 325311) and Lime Manufacturing (NAICS code 327410) sectors, respectively, and to change the assistance factor for sectors with medium- and low-leakage risk to be 100% for 2018-2020. The activities "Textile and Fabric Finishing" (NAICS code 313310) and "Other Structural Clay Product Manufacturing" (NAICS code 327123) are added to Table 8-1 and assistance factors for these sectors are set at 100 percent through 2030 as for all other industrial sectors. The leakage risk for these new activities are listed as "TBD." A footnote is added to Table 8-1 stating that staff may propose a leakage risk classification for "Textile and Fabric Finishing" and "Other Structural Clay Product Manufacturing" as part of this rulemaking process and that any change that is proposed will be circulated for a 15-day public comment period.

Rationale for Section 95870, Table 8-1.

The table title is revised to clarify the purpose and content of the table and to remove the designation "for 2013-2020" given that assistance factors for 2021-2030 are added. Adding the "2021-2030" column is necessary to specify assistance factors for all industrial activities at 100% for those years as required by AB 398. The general activities "Nitrogenous Fertilizer Manufacturing" and "Lime Manufacturing" are added to allow for allowance allocation to new entrants to the Program that operate in these sectors, but that conduct activities other than those previously specified in Table 8-1. The revision to change the assistance factors for the medium- and low-leakage risk sectors for 2018-2020 responds to Board direction from July 2017 and is necessary to ensure a smooth path for compliance for these sectors given the AB 398 requirement that all assistance factors post-2020 be set to 100%.

Adding the activities "Textile and Fabric Finishing" and "Other Structural Clay Product Manufacturing" is necessary to allow for allowance allocation to potential new entrant facilities that conduct these activities. Assistance factors for these new activities are set equal to 100 percent through 2030 in accordance with all other industrial sectors. Staff will conduct a leakage risk assessment for these activities using CARB's established

methodology,[53] and any proposed change to the leakage risk classification will be circulated for a 15-day comment period during this rulemaking and prior to final consideration of the amendments by the Board.

§ 95871. Disposition of Allowances from Vintage Year 2021 and Beyond.

Summary of Section 95871(b)(1).
Section 95871(b)(1) is amended to revise the reference to section 95913(f)(5) to be section 95910(c)(2).

Rationale for Section 95871(b)(1).
This change is needed because the reference to section 95913(f)(5) is no longer correct. The correct reference is section 95910(c)(2).

Summary of Section 95871(b)(2).
Section 95871(b)(1) is amended to revise the reference to section 95913(f)(5) to be section 95910(c)(2).

Rationale for Section 95871(b)(2).
This change is needed because the reference to section 95913(f)(5) is no longer correct. The correct reference is section 95910(c)(2).

Summary of Section 95871(d).
Section 95871(d) is modified to specify that allowances allocated for industrial assistance are transferred to the annual allocation holding account, and to provide the timing of January 1 for this transfer. The proposed changes add content to the section to include provisions for allocating allowances to industrial covered entities. Previously this section only included the placeholder text, "Allocation to Industrial Covered Entities."

Rationale for section 95871(d).
The additions to section 95871(d) are necessary to ensure entities who will receive allocation understand the timing and location of such allocation. The current Regulation has no provisions for post-2020 allowance allocation to industrial covered entities because no staff proposal during the 2016 Regulation amendment process garnered sufficiently broad support among stakeholders. No action was taken on post-2020 industrial allocation during the 2016 Regulation amendments, and staff stated their intention to continue analyzing emissions leakage risk and to propose assistance factors in a future rulemaking. AB 398 requires assistance factors for all covered industrial activities to be set at 100 percent for the years 2021-2030. The new text in section 95871(d) is needed to designate allowances for allocation to industrial covered

[53] California Air Resources Board. 2010 Proposed Regulation to Implement the California Cap-and-Trade Program, Staff Report: Initial Statement of Reasons, Part I, Volume IV, Appendix K: Leakage Analysis. http://www.arb.ca.gov/regact/2010/capandtrade10/capv4appk.pdf.

entities, specify the industrial activities eligible for allowance allocation, and specify the assistance factor for each industrial activity by reference to Table 8-1.

Summary of Section 95871(d)(1)-(4).
The new sections are added to specify the timing of allocation to industrial covered entities (by October 24) and reference the assistance factors from Table 8-1 that will be used in the calculation for such allocation. The proposed changes also specify the pool of allowances from which allocation can occur, a proration methodology should the calculation of allocation exceed available allowances, and that industrial entities that receive an allocation and purchase electricity or legacy contract qualified thermal output pursuant to a legacy contract will have their allocation reduced pursuant to section 95891.

Rationale for Section 95871(d)(1)-(4).
These amendments allow for allowance allocation to industrial covered entities after 2020. The new sections are necessary to ensure that entities who will receive allocation understand the timing of such allocation to them, which assistance factors will apply pursuant to Table 8-1, and that they may receive reduced allocation depending on the total amount of allowances available for allocation and/or if they also purchase electricity or legacy contract qualified thermal output. AB 398 specifies the assistance factors for allocation post-2020, and AB 32 requires that CARB minimize leakage. These changes are necessary to ensure effective implementation of these statutory requirements.

Summary of Section 95871(f).
This section is amended to include allowance allocation to legacy contract generators without an industrial counterparty.

Rationale for Section 95871(f)
This change is needed in order to clarify that legacy contract generators without an industrial counterparty are eligible for allocation of allowances from vintage year 2021 and beyond.

Summary of Section 95871(h)(1)-(2).
Content from section 95871(h)(1) is deleted and content from 95871(h)(2) is moved up to be part of section 95871(h) and revised to delete a reference to the Reserve borrowing mechanism (section 95871(h)(1)) and to add new references to sections 95870(j) and 95911(h).

Rationale for Section 95871(h)(1)-(2).
The deletion of section 95871(h)(1) is necessary because it contains the source of future vintage allowances that can be sold through the Reserve using the existing borrowing mechanism from the existing Regulation. AB 398 directed CARB to create a new Price Ceiling at which entities could purchase allowances designated to be sold at the price ceiling and additional reductions (called price ceiling units pursuant to new

section 95915) on a metric-ton for metric-ton basis, as needed. This makes the existing borrowing mechanism unnecessary, so staff is proposing to eliminate it.

The new reference to section 95871(i) is needed to account for the addition of section 95871(i), which provides for allowance allocation to waste-to-energy facilities. The new reference to section 95911(h) is needed to reflect the addition of this new section that addresses the retirement of future vintage allowances to cover unresolved emissions obligations resulting from covered entity bankruptcy or EIM Outstanding Emissions. The other changes are needed to reflect the renumbering of the section.

Summary of New Section 95871(i).
A new section has been added to provide for allowance allocation to waste-to-energy facilities.

Rationale for New Section 95871(i).
The 2016 Regulation amendments that took effect October 1, 2017 ended the limited exemption for waste-to-energy facilities so that, beginning in 2018, waste-to-energy facilities have a compliance obligation and must acquire and surrender compliance instruments. This section designates allowances for allocation to waste-to-energy facilities for the purposes of transition assistance as directed by Board Resolution 17-21.

Summary of Section 95871, Table 8-2
Table 8-2 contains the number of allowances that are allocated from each year's allowance budget to the Allowance Price Containment Reserve (Reserve) each year from 2021 through 2030. For the 2021-2030 period, this Reserve is the same as the two price containment points specified by AB 398. The number of allowances transferred each year is increased by 2,272,600. In addition, the Table is revised to remove any reference to 2031.

Rationale for Section 95871, Table 8-2
The change is needed to accommodate an increased number of allowances from within the 2021-2030 annual allowance budgets that are being placed into the Reserve to reflect the AB 398 directive that raises the quantitative offset usage limit from 4 percent for data years 2021-2025 to 6 percent in 2026-2030. When CARB initially created the Reserve, CARB funded it through an increase in the quantitative offset usage limit from 4 to 8 percent. This freed up allowances that could be placed in the Reserve equal to 4 percent of the annual allowance budgets through 2020. Staff are employing the same rationale to reflect the increase in the quantitative offset usage limit in 2026 as required by AB 398. To avoid a discontinuous reduction in allowance budgets in 2026, Staff is proposing to take a uniform number of allowances from all budget years 2021 through 2030. Finally, this rulemaking is not proposing to place any allowances into the Reserve after 2030, so the year 2031 is being removed from the table. Including allowances in the Reserve after 2030 would need to be proposed as part of a future rulemaking.

Subarticle 9: Direct Allocations of California GHG Allowances

§ 95890. General Provisions for Direct Allocations.

Summary of Section 95890(e).
Section 95890(e) is amended to add the text “or legacy contract generator without an industrial counterparty” and to remove the redundant phrase “of this regulation.”

Rationale for Section 95890(e).
The proposed changes are necessary to allow legacy contract generators without an industrial counterparty to apply to the Executive Officer for allowance allocation in the same manner as legacy contract generators without an industrial counterparty. The proposed changes also remove a phrase the does not add anything in terms of clarity.

Summary of New Section 95890(l).
New section 95980(l) has been added to establish eligibility requirements for waste-to-energy facilities to receive allowance allocation.

Rationale for New Section 95890(l).
The 2016 Regulation amendments that took effect October 1, 2017 ended the limited exemption for waste-to-energy facilities so that, beginning in 2018, waste-to-energy facilities incur a compliance obligation and must acquire and surrender compliance instruments. This new section establishes three eligibility requirements for waste-to-energy facilities to receive allowance allocation for the purposes of transition assistance: incurring a compliance obligation for the relevant year, complying with MRR, and receiving a positive or qualified positive emissions data verification statement for the prior year. These eligibility criteria are analogous to the criteria required for all other facilities receiving allowance allocation. The new section is necessary to ensure that the eligibility requirements are clear and understood by waste-to-energy facilities.

§ 95891. Allocation for Industry Assistance

Summary of Section 95891 (Title).
The section title was changed from “Allocation for Industry Assistance” to “Allocation for Industry Transition Assistance and Leakage Minimization.”

Rationale for Section 95891 (Title).
The change was made to clarify the purpose of the section, without changing any meaning.

Summary of Section 95891(a)(1).
Section 95891(a)(1) is modified to clarify the initial leakage risk classification for new entrant facilities that operate in sectors that only match the first three digits of a NAICS category listed in Table 8-1. The initial leakage risk classification for new entrant food processors with a three-digit NAICS code of 311 is set equal to the leakage risk for “Food Manufacturing” (NAICS code 311).

Rationale for Section 95891(a)(1).
The changes are necessary to improve clarity of the section and do not change the meaning of the section has not changed. The initial leakage risk classification is low for new entrant facilities that operate in sectors that only match the first three digits of a NAICS category listed in Table 8-1. The initial leakage risk classification for new entrant food processors with a three-digit NAICS code of 311 is set equal to the leakage risk for "Food Manufacturing" (NAICS code 311), which is already listed in Table 8-1 This phase-in of leakage risk classification is conservative and provides an incentive to expediently assess leakage risk for new entrants.

Summary of Section 95891(c).
Section 95891(c) is amended to include process emissions in the energy-based allocation methodology. A "ProcessEmissions" term is added to the energy-based allocation equation, and a new definition of the "ProcessEmissions" term is added. A true-up allocation is added to the energy-based methodology for allocation of vintage 2020 and 2021 allowances only. A "TrueUp" term is added to the energy-based allocation equation, and a new definition of the "TrueUp" term is added. There are other minor typographical and grammatical changes made that do not change meaning.

Rationale for Section 95891(c).
The amendments are necessary because process emissions must be included in the energy-based allocation equation to provide the appropriate level of leakage protection and transition assistance to facilities with process emissions. This change will accommodate entry into the Program by facilities that both have significant process emissions and will receive energy-based allowance allocation. These changes are consistent with the product-based allocation methodology, which includes process emissions in the calculation of product benchmarks.

Adding true-up allocation to the energy-based methodology for allocation of vintage 2020 and 2021 allowances is needed to account for changes in third compliance period assistance factors for facilities with low and medium leakage risks. Staff is currently proposing to change third compliance period assistance factors, but the new assistance factors will be effective only after allocation of vintage 2018 and 2019 allowances have already occurred. Adding true-up allocation to the energy-based methodology will enable CARB to correct the initial vintage 2018 and 2019 allowance allocations, which will have been calculated with current assistance factors, with true-up allocations of vintage 2020 and 2021 allowances, which will be calculated with updated assistance factors.

Summary of Section 95891(c)(2)(A).
Section 95891(c)(2)(A) is modified to add process emissions to the allocation equation for opt-in covered entities without historical baseline emissions data. A "$ProcessEmissions_{est}$" term is added to the energy-based allocation equation, and a new definition of the "$ProcessEmissions_{est}$" term is added. There are other minor typographical and grammatical changes that do not change meaning.

Rationale for Section 95891(c)(2)(A).
The amendments are necessary because process emissions must be included in the energy-based allocation equation to provide the appropriate level of leakage protection and transition assistance to facilities with process emissions. This change will accommodate entry into the Program by facilities that both have significant process emissions and will receive energy-based allowance allocation necessitate this change. These changes are consistent with the product-based allocation methodology, which includes process emissions in the calculation of product benchmarks.

Summary of Section 95891(c)(2)(B).
Section 95891(c)(2)(B) is modified to add process emissions are added to the allocation equation for transitional facilities. A "ProcessEmissions" term is added to the initial allocation equation, and a new definition of this term is added. There are other minor typographical and grammatical changes that do not change meaning.

Rationale for Section 95891(c)(2)(B).
The amendments are necessary because process emissions must be included in the energy-based allocation equation to provide the appropriate level of leakage protection and transition assistance to facilities with process emissions. This change will accommodate entry into the Program by facilities that both have significant process emissions and will receive energy-based allowance allocation. These changes are consistent with the product-based allocation methodology, which includes process emissions in the calculation of product benchmarks.

Summary of Section 95891(c)(2)(D).
Section 95891(c)(2)(D) is modified to add process emissions are added to the stability equation for new entrants. A "ProcessEmissions" term is added to the initial allocation equation, and a new definition of this term is added. There are other minor typographical and grammatical changes that do not change meaning.

Rationale for Section 95891(c)(2)(D).
These amendments are necessary because process emissions must be included in the energy-based allocation equation to provide the appropriate level of leakage protection and transition assistance to facilities with process emissions. This change will accommodate entry into the Program by facilities that both have significant process emissions and will receive energy-based allowance allocation. These changes are consistent with the product-based allocation methodology, which includes process emissions in the calculation of product benchmarks.

Summary of Section 95891(d)(2).
Section 95891(d)(2) is amended to add language to allow CARB to employ all available data reported to CARB under MRR instead of only 2008-2013 MRR data when determining allocation baselines for universities and public service facilities if, and only if, the entity changes from an opt-in covered entity to a covered entity due to a facility ownership change.

Rationale for Section 95891(d)(2).
The amendments are necessary to allow CARB, when determining allocation baselines for universities and public service facilities, to employ MRR data relevant to the new situation in the limited case when an entity status changes from an opt-in covered entity to a covered entity due to a facility ownership change. Without these changes, CARB would not be able to make its allocation baseline determination using the most relevant data for entities changing their status. The change is limited to change of status situations to ensure continuing consistent review and data years for entities whose status has not changed.

Summary of New Section 95891(f)(1)-(3).
Sections 95891(f)(1)-(3) are added to include a calculation methodology for allowance allocation for waste-to-energy facilities.

Rationale for New Section 95891(f)(1)-(3).
The 2016 Regulation amendments that took effect October 1, 2017 ended the limited exemption for waste-to-energy facilities so that, beginning in 2018, waste-to-energy facilities incur a compliance obligation and must acquire and surrender compliance instruments. The addition of new sections 95891(f)(1)-(3) is necessary to specify a methodology to calculate allowance allocation for waste-to-energy facilities for the purposes of transition assistance, as directed by Board Resolution 17-21.

Section 95891(f)(1) specifies the methodology to use for allocation of vintage 2020 allowances, which includes a true-up allocation. "$TrueUp_t$" is the amount of true-up allowances allocated to account for allocation not properly accounted for in prior allocations. This is necessary given the timing of the amendments, which will be effective only after the initial allocations of vintage 2018 and 2019 allowances will have occurred.

Section 95891(f)(2) specifies the methodology to use for allocation of vintage 2021 allowances and future budget years. This methodology does not include a true-up allocation since these years will be allocated after these amendments are effective, so no true-up will be necessary. Section 95891(f)(3) establishes the data sources that will be used in determining the appropriate baseline values for the waste-to-energy allowance allocation calculation.

Staff proposes to provide free allowance allocation to waste-to-energy facilities based on a historic average of annual covered emissions less the emissions associated with sold electricity that is generated from non-biogenic fuel. This approach provides appropriate transition assistance by considering the emissions that incur a compliance obligation in the Cap-and-Trade Program. Similar to the method of establishing baseline values for new entrant facilities under an energy-based allocation method, historic annual averages will be established using 2015 through 2017 data years, the three most recent years for which data are available. Staff believes that this approach

provides equitable treatment of facilities in the waste-to-energy sector and accurately allocates allowances for the purpose of transition assistance.

Summary of Section 95891, Table 9-2.
Table 9-2 is amended to add alternate cap adjustment factors for post-2020 compliance periods.

Rationale for Section 95891, Table 9-2.
The alternate cap adjustment factors apply to the industrial sectors that have 1) high process emissions, 2) high emissions intensity, and 3) high leakage risk classification. The Regulation currently has alternate cap adjustment factors for the pre-2021 period for these industrial sectors. Board Resolution 17-21 directed CARB to follow the same methodology employed for 2015-2017 to establish alternate cap adjustment factors for the post-2020 period, which furthers the purposes of AB 32.

§ 95892. Allocation to Electrical Distribution Utilities (EDU) for Protection of Electricity Ratepayers.

Summary of Section 95892(b)(2)(A)-(B).
Section 95892(b)(2) is reorganized and rephrased for clarity while continuing to allow publicly owned utilities and electrical cooperatives receiving allowance allocation to specify how their allocated allowances are to be distributed between their limited use holding account and the compliance accounts of electrical generating facilities entities they operate or which are operated by joint power agencies in which they are members and have a power purchase agreement. New text allows publicly owned utilities and electrical cooperatives to direct allocated allowances into the accounts of electric power entities they operate or which are operated by joint power authorities in which they are members and with which they have a power purchase agreement or an agreement for imported electricity. New text is also added to section 95892(b)(2)(B) allowing publicly owned utilities and electrical cooperatives to direct the placement of allocated allowances into the compliance account of a federal power authority with which they have a power purchase agreement. These compliance accounts are now identified in section 95892(b)(2). Text is also modified to correct typographical errors, without changing the meaning.

Rationale for Section 95892(b)(2)(A)-(B).
The changes to Section 95892(b)(2) are necessary to ensure parity of treatment related to the direct placement of allocated allowances in the compliance accounts of electric power entities and electrical generating facilities. Section 95892(b)(2)(B) is also modified to allow for the direct placement of allocated allowances into the compliance accounts of federal power authorities that have power purchase agreements or agreements for imported power with a publicly owned utility or electrical cooperative. This change is necessary to facilitate the transfer of these allowances in recognition of the limitations federal power authorities have in acquiring allowances. Modifications also correct typographical errors and change section numbering and organization for clarity without changing the meaning.

Summary of Section 95892(d)(1).
Section 95892(d)(1) is modified to clarify that electrical cooperatives are covered by the requirements of this section. Text is also revised to refer to sections 95892(d)(3)-(8) rather than sections 95892(d)(3)-(5).

Rationale for Section 95892(d)(1).
This change clarifies that electrical cooperatives are covered by Section 95892(d)(1), since like publicly owned utilities they are subject to their own governance structures and not to Public Utilities Commission jurisdiction. Changing the referenced section ensures that these utilities are subject to the new sections added to section 95892(d).

Summary of Section 95892(d)(2).
Section 95892(d)(2) is modified to refer to sections 95892(d)(3)-(8) rather than sections 95892(d)(3)-(5).

Rationale for Section 95892(d)(2).
This change is necessary to ensure that investor owned utilities are subject to the new sections added to section 95892(d).

Summary of Section 95892(d)(3) and New Sections 95892(d)(3)(A)-(D).
Section 95892(d)(3) is amended to clarify that electricity ratepayers must be the primary beneficiaries of the use of allocated allowance proceeds. Text is amended to list all of the allowed uses of EDU allocated allowance auction proceeds. These uses consist of GHG-reducing activities and non-volumetric return to ratepayers as primary uses, while some allowance value also may be spent on administrative and outreach costs. These uses are allowed provided that they meet the other requirements of the Regulation.

New sections 95892(d)(3)(A)-(C) describe various GHG-reducing activities that are allowed uses of EDU allocated allowance auction proceeds. Section 95892(d)(3)(A) addresses permissible uses of allowance value related to renewable energy and its integration. These activities include construction of eligible renewable energy resources that will directly deliver to California under product content category 1, as defined in Public Utilities Code section 399.16(b)(1). GHG-reducing activities also include purchase of generation from eligible renewable energy resources directly delivered to California that meet the product category 1 definition or that satisfy Public Utilities Code section 399.16(d). They also include supporting renewable energy resources owned by customers or located in the EDU service territory, whether they are solar, biomass, wind, geothermal, or other renewable resources defined in Public Resources Code section 25741(a)(1). Energy storage projects designed to support the utility's renewable electricity integration are also identified as an allowed GHG-reducing activity under section 95892(d)(3)(A).

New section 95892(d)(3)(B) allows EDU allocated allowance auction proceeds to be spent on programs to reduce GHG emissions through reductions in energy use or changes to lower emission intensity energy sources. These energy efficiency and fuel-

switching activities include energy-efficient equipment rebates, building energy efficiency retrofits, and other demand-reducing projects. Projects that support switching from natural gas, propane, or diesel to electric equipment are also allowed. Finally, energy efficiency and fuel-switching activities includes electric vehicle infrastructure projects or other projects supporting active transportation, public transportation, or zero-emission vehicles.

New section 95892(d)(3)(C) allows EDU allocated allowance auction proceeds to be spent on certain other GHG-reducing activities that are not covered under sections 95892(d)(3)(A) or (B). Spending on activities other than renewable energy, renewable energy integration, energy efficiency and fuel-switching are allowed, provided that the EDU can demonstrate GHG emission reductions per section 95892(d)(4). New section 95892(d)(3)(C) also clarifies that it can include activities that reduce emissions of sulfur hexafluoride.

New section 95892(d)(3)(D) states that EDU allocated allowance auction proceeds may be returned to ratepayers in a non-volumetric manner, either on- or off-bill. It specifies that any on-bill proceeds return must appear on bills as a line item.

Section 95892(d)(3) is also amended to clarify that allocated allowance auction proceeds are included in allowance value and to specify that retail ratepayers of each EDU refers to retail electricity ratepayers.

<u>Rationale for Section 95892(d)(3) and New Sections 95892(d)(3)(A)-(D).</u>
The changes specifying that allocated allowance auction proceeds are included within allowance value and adding the word “electricity” to the description of ratepayers are clarifying changes only and do not change any meaning. The removal of the word “exclusively” and the addition of the word “must” and “primary” are necessary to ensure that electricity ratepayers are the direct and central beneficiaries of uses of allowance value while recognizing that some allowable uses, including electric vehicle charging infrastructure, active transportation, and public transportation, may also provide benefits to some non-ratepayers.

The remaining changes to section 95892(d)(3) maintain flexibility for electrical distribution utilities’ use of allocated allowance auction proceeds while focusing uses on the core purposes of allowance allocation to EDUs: benefitting ratepayers and reducing GHG emissions. Allowing a variety of renewable energy, energy efficiency, and other GHG-reducing activities allows EDUs the flexibility to select which activities are most appropriate to the resources and ratepayers of their utility. Adding detail describing the types of allowed uses is responsive to requests that CARB has received for clarification regarding what uses of allowance value are allowed. Specifying these uses also increases transparency about the use of allocated allowance value for both utilities and the general public.

New section 95892(d)(3)(A) allows EDU allocated allowance auction proceeds to be spent on renewable energy and activities that support it because maximizing the use of

renewable energy is a key way that utilities can contribute to reducing California's GHG emissions. Renewable electricity generated outside the utility's service territory must be directly delivered to California in order to make sure it reduces California's GHG emissions. Allowing expenditures on renewable generation in the service territory, whether or not it is owned by the utility, enables utilities to support rooftop solar projects and similar renewable energy activities. Allowing spending on energy storage that supports renewable energy integration recognizes that energy storage may enable higher usage of renewable energy resources that depend upon natural fluctuations, such as solar and wind energy. Relying upon Public Utilities Code and Public Resources Code definitions of renewable energy resources where appropriate, aligns these activities with existing State policies.

New section 95892(d)(3)(B) allows EDU allocated allowance auction proceeds to be spent on energy efficiency and fuel-switching, as they are key approaches to reducing GHG emissions. This section delineates subcategories of energy efficiency and fuel-switching activities to clarify the types of projects on which spending allocated allowance auction proceeds is allowed. Rebates for energy-efficient equipment and building energy efficiency retrofits benefit customers while reducing demand, thereby reducing GHG emissions. Projects that reduce demand are allowed in order to provide flexibility in the types of projects that EDUs may implement using proceeds. Fuel-switching projects are allowed since they can contribute significantly to reducing GHG emissions. New text clarifies that switching from fossil fuels to electricity can meet the requirement to benefit ratepayers consistent with the goals of AB 32. Finally, this section identifies electric vehicle infrastructure, active transportation, zero-emission vehicles, and public transportation as additional approaches that reduce GHG emissions and provide direct benefits of improved infrastructure and greater access to clean transportation to ratepayers, thereby benefitting ratepayers consistent with the goals of AB 32.

New section 95892(d)(3)(C) is added to provide utilities some flexibility to spend allocated allowance auction proceeds to reduce GHG emissions through limited methods that are not explicitly listed in the Regulation. Due to variation among utilities and over time, sections 95892(d)(3)(A)-(B) may not list all the acceptable GHG-reducing activities that a utility could undertake. Section 95892(d)(3)(C) allows utilities to pursue other GHG-reducing activities, as long as they meet other regulatory requirements and are not in the broad categories discussed in sections 95892(A)-(B). Sections within 95892(d)(3)(C) explicitly allow reducing emissions of sulfur hexafluoride (SF_6) as suggested by utility comments. Reducing emissions from SF_6 by replacing SF_6 in utility switchgear with gases that have lower global warming potentials is an allowable use of proceeds since SF_6 has large and long-lasting climate impacts.

New section 95892(d)(3)(D) allows EDU allocated allowance auction proceeds to be spent on non-volumetric return to ratepayers. Utilities have the option of returning allowance value to ratepayers rather than spending it on GHG-reducing programs or activities. Return to ratepayers must be non-volumetric, as currently required by the Regulation, in order to avoid counteracting the incentive to reduce GHG emissions.

Summary of New Section 95892(d)(4).
New section 95892(d)(4) defines allowed administrative and outreach costs. EDUs may use allocated allowance auction proceeds for administrative costs to the extent that they are necessary to implement the GHG-reducing activities covered by sections 95892(d)(3)(A)-(C) or the revenue return to ratepayers covered by section 95892(d)(3)(D). EDUs may use allocated allowance auction proceeds for outreach costs as long as the outreach is supporting other uses of allowance value covered by sections 95892(d)(3)(A)-(D).

Rationale for New Section 95892(d)(4).
In recognition of the fact that the activities allowed by sections 95892(d)(3)(A)-(D) may require administration and outreach for implementation, new section 95892(d)(4) specifies that allowance value may be spent on administrative and outreach costs for the implementation of those activities. Administrative costs are limited to only those costs that are necessary to support the allowed uses in order to focus the majority of allocated allowance value on benefitting ratepayers and reducing GHG emissions through the uses specified in sections 95892(d)(3)(A)-(D). Outreach costs are included to the extent that these expenditures are used to make potential beneficiaries aware of the activity and its benefits. For example, for an energy efficiency rebate program allowable outreach costs may include materials sent to ratepayers to promote awareness of the rebate and its energy, environmental and costs savings benefits. This section is necessary to clarify which administrative or overhead costs are and are not allowed uses of allocated allowance value.

Summary of New Section 95892(d)(5).
New section 95892(d)(5) is added to require that for each use of allocated allowance auction proceeds, the EDU must demonstrate GHG emission reductions, unless proceeds are returned to ratepayers per section 95892(d)(3)(D) or support other allowed uses of allowance value per section 95892(d)(4).

Rationale for New Section 95892(d)(5).
Requiring the EDU to demonstrate the expected GHG emission reductions from the use of allocated allowance proceeds ensures that the activities on which EDU allocated allowance auction proceeds are spent reduce reducing GHG emissions. This requirement also encourages utilities to consider GHG reductions when deciding how to use allocated allowance value and will increase transparency regarding the GHG benefits of allocating allowances to EDUs.

Summary of Section 95892(d)(4) [New Section 95892(d)(6)].
Section 95892(d)(4) is renumbered to section 95892(d)(6).

Rationale for Section 95892(d)(4) [New Section 95892(d)(6)].
This change is needed to ensure correct numbering per the creation of new section 95892(d)(4).

Summary of Section 95892(d)(5) [New Section 95892(d)(7)].
Section 95892(d)(5) is renumbered to become section 95892(d)(7). The "benefit of retail ratepayers" is modified to "primary benefit of retail electricity ratepayers." The section is modified to expressly prohibit the use of EDU allocated allowance value for the costs of complying with the Cap-and-Trade Regulation, except for those costs allowed pursuant to section 95892(d)(3)-(4), and to prohibit the use of EDU allocated allowance value for lobbying, employee bonuses and shareholder dividends.

Rationale for Section 95892(d)(5) [New Section 95892(d)(7)].
Changes to section 95892(d)(6) clarify prohibited uses of EDU allocated allowance value. The allowed uses of EDU allocated allowance value are described in section 95892(d)(3)-(4). These uses are allowed because they support retail ratepayers and further the goals of AB 32. Allowance allocation is not provided to EDUs to benefit shareholders or employees or subsidize regulatory costs, nor is it provided to assist utilities' lobbying efforts, regardless of the goals or content of those efforts.

This section is renumbered to accommodate the creation of the new sections 95892(d)(4) and 95892(d)(5). The addition of "primary" and "electricity" creates consistency with similar changes to section 95892(d)(3).

Summary of Section 95892(d)(6) [New Section 95892(d)(8)].
Section 95892(d)(6) is renumbered to section 95892(d)(8). This section is amended to specify that EDU allocated allowance value received prior to October 1, 2017 must be used by December 31, 2027.

Rationale for Section 95892(d)(6) [New Section 95892(d)(8)].
This section is renumbered to accommodate the creation of the new sections 95892(d)(4) and 95892(d)(5). This section currently specifies that EDU allocated allowance value must be used within ten years after the vintage year of the allowances. This existing requirement became effective October 1, 2017. This amendment is needed to clarify the deadline for spending allocated allowance value received before October 1, 2017.

Summary of Section 95892(e).
Section 95892(e) is modified to replace the text "how any" with "the disposition of all," referring to allocated allowance auction proceeds spent. The phrase "were spent" is removed.

Rationale for Section 95892(e).
These changes clarify that EDU reporting on allocated allowance value must cover not only the proceeds spent, but also the status and usage (if any) of all allocated allowance auction proceeds the EDU had at any point during the previous year. Changes to the rest of section 95892(e), discussed below, restructure this section to clarify and align with the shift from reporting on a vintage year basis to reporting on a calendar year basis.

Summary of New Section 95892(e)(1).
New section 95892(e)(1) is added to require reporting of unspent funds at the start of the previous calendar year.

Rationale for New Section 95892(e)(1).
This section is added to clarify that the reporting requirements include reporting on the balance of unspent funds, if any, at the start of the previous calendar year. These changes supports a full accounting of unspent proceeds and will also help track compliance with the 10 year spending requirement in section 95892(d)(7).

Summary of Section 95892(e)(1) [New Section 95892(e)(2)].
Former section 95892(e)(1) is renumbered to section 95892(e)(2). The word “from” is replaced with “during” and the word “vintage” is removed. The phrase “and any other allocated allowance auction proceeds” is removed.

Rationale for Section 95892(e)(1) [New Section 95892(e)(2)].
These changes clarify the shift to reporting on a calendar year basis rather than a vintage year basis. The renumbering is necessary due to the addition of new section 95892(e)(1).

Summary of Section 95892(e)(3) [deleted].
Former section 95893(e)(3) is deleted.

Rationale for Section 95892(e)(3) [deleted].
This section applied only to reporting due by June 30, 2018 and is no longer needed.

Summary of New Section 95892(e)(3).
New section 95892(e)(3) incorporates and modifies text from former section 95892(e)(1). New text clarifies that reporting must state the amount of all auction proceeds spent during the previous calendar year, regardless of the date when the proceeds were received, and state any balance of auction proceeds that remained unspent at the end of the previous calendar year.

Rationale for New Section 95892(e)(3).
These changes are needed to ensure that CARB receives a complete picture from each EDU of the disposition and status of all allocated allowance auction proceeds.

Summary of Section 95892(e)(2) [New Section 95892(e)(4)].
Former section 95892(e)(2) is renumbered to section 95892(e)(4). This section is amended to reformulate the requirements to report on how allocated allowance auction proceeds expenditures during the previous year comply with the requirements of AB 32. New section 95892(e)(4)(A) clarifies that describing how allowance value is used to benefit ratepayers entails describing the nature, purpose, and amount of each expenditure and how the expenditure benefits ratepayers. New section 95892(e)(4)(B) requires that EDUs estimate GHG emission reductions for GHG-reducing uses of EDU allocated allowance value. GHG emission reduction estimation methods must utilize

use-specific information, specified or comparable emission factors, time period of emission reductions and percentage of costs covered by the allocated allowance auction proceeds. Each year, CARB will calculate or approve an emission factor to be used for grid electricity and publish it on the CARB website. This grid electricity emission factor is intended to reflect the average annual emissions intensity of California's electricity sector. Staff anticipates that this grid electricity emissions factor will be based on total annual in-state and imported electricity emissions as reflected in the CARBS's GHG emission inventory[54] and in-state and imported electricity generation data from the California Energy Commission Energy Almanac.[55] The proposed amendments specify that EDUs are to use MRR or comparable emission factors for non-transportation fuels and California Climate Investments (Greenhouse Gas Reduction Fund) methods or comparable methods to calculate emission factors for vehicle miles travelled. New section 95892(e)(4)(C) requires EDUs to itemize any uses of allocated allowance value for administrative and outreach costs to support other allowance value uses.

Rationale for Section 95892(e)(2) [New Section 95892(e)(4)].
These changes are necessary to improve CARB tracking of how allowance allocation to EDUs is contributing to AB 32 goals. The restructuring of this section clarifies existing requirements and adds new specific requirements. Adding detail improves clarity regarding what is required. By requiring EDUs to estimate emission reductions expected from each use of proceeds and itemize necessary administrative and outreach costs, these changes also improve Program transparency and encourage EDUs to consider GHG emission reductions when making decisions about using allocated allowance value.

The proposed GHG estimation amendments combine structure and flexibility. Estimating the GHG emission reductions for a project or activity entails comparing the amount of energy used to the amount used if that project or activity had not occurred. Standard emission factors for fuels and a statewide electricity factor will bring consistency to the calculations performed by multiple utilities. For transportation-related activities, the diversity of activities requires a diversity of emission factors, and California Climate Investments methodologies provide vetted approaches for calculating them. Time frames and cost contributions from proceeds are necessary to estimating GHG impacts. Structure provides a clear path to compliance, while flexibility in calculation methods accommodates the potential diversity of uses of allowance value. Taken together, the reporting requirements in section 95892(e)(4) will improve consistency in how EDUs are reporting to CARB and will increase transparency and public understanding about how EDU allocated allowance value is used.

Renumbering this section accommodates the creation of the new sections 95892(e)(1) and 95892(e)(3).

[54] *See* https://www.arb.ca.gov/cc/inventory/inventory.htm
[55] *See* http://www.energy.ca.gov/almanac/

§ 95893. Allocation to Natural Gas Suppliers for Protection of Natural Gas Ratepayers.

Summary of Section 95893(b)(1).
Section 95893(b)(1) is amended to remove "or the first business day thereafter," change "Compliance" to "compliance account," and remove capitals from "Limited Use Holding Account."

Rationale for Section 95893(b)(1).
These clarifying changes standardize terminology. It is unnecessary to state "or the first business day thereafter" because scenarios where specific dates fall on non-business days is covered by general text in the California Health and Safety Code.

Summary of Section 95893(d)(1).
Section 95893(d)(1) is modified to refer to sections 95893(d)(3)-(8) rather than sections 95893(d)(3)-(5).

Rationale for Section 95893(d)(1).
This change is necessary to clarify that publicly owned natural gas utilities are subject to the new sections added to section 95893(d).

Summary of Section 95893(d)(2).
Section 95893(d)(2) is modified to refer to sections 95893(d)(3)-(8) rather than sections 95893(d)(3)-(5).

Rationale for Section 95893(d)(2).
This change is necessary to clarify that public utility gas corporations are subject to the new sections added to section 95893(d).

Summary of Section 95893(d)(3) and New Sections 95893(d)(3)(A)-(C).
Section 95893(d)(3) is amended to clarify that natural gas ratepayers must be the primary beneficiaries of the use of allocated allowance proceeds. Text is amended to list all of the allowed uses of natural gas supplier allocated allowance auction proceeds. These uses consist of GHG-reducing activities and non-volumetric return to ratepayers. These uses are allowed provided that they meet the other requirements of the Regulation.

New sections 95893(d)(3)(A)-(B) describe various GHG-reducing activities that are allowed uses of natural gas supplier allocated allowance auction proceeds. Section 95893(d)(3)(A) addresses permissible uses of allowance value related to programs to reduce GHG emissions through reductions in energy use. These energy efficiency activities include energy-efficient equipment rebates, building energy efficiency retrofits, and other demand-reducing projects.

Section 95893(d)(3)(B) allows natural gas supplier allocated allowance auction proceeds to be spent on GHG-reducing activities other than energy efficiency. Section

95893(d)(3)(B) also clarifies that this includes activities that reduce fugitive methane emissions. Spending allowance proceeds on these activities is allowed, provided that the natural gas supplier can demonstrate GHG emission reductions per section 95893(d)(4).

New section 95893(d)(3)(C) states that natural gas supplier allocated allowance auction proceeds may be returned to ratepayers in a non-volumetric manner, either on- or off-bill. It specifies that any on-bill proceeds return must appear on bills as a line item.

Section 95893(d)(3) is also amended to clarify that allocated allowance auction proceeds are included in allowance value and to specify that retail ratepayers of each natural gas supplier refers to retail natural gas ratepayers.

<u>Rationale for Section 95893(d)(3) and New Sections 95893(d)(3)(A)-(C).</u>
The changes specifying that allocated allowance auction proceeds are included within allowance value adding the modifier “natural gas” to the description of ratepayers are clarifying changes only and do not change any meaning. The removal of the word “exclusively” and the addition of the word “must” and “primary” ensures that natural gas ratepayers are the direct and central beneficiaries of uses of allowance value while recognizing that some allowable uses, such as transportation-related activities, may also provide benefits to some non-ratepayers.

The remaining changes to section 95893(d)(3) are necessary to maintain flexibility for natural gas supplier’s use of allocated allowance auction proceeds while focusing uses on the core purposes of allowance allocation to natural gas suppliers: benefitting ratepayers and reducing GHG emissions. Allowing a variety of energy efficiency and other GHG-reducing activities allows natural gas suppliers the flexibility to select which activities are most appropriate to the resources and ratepayers of their utility. Adding detail describing the types of allowed uses is responsive to requests that CARB has received for clarification regarding what uses of allowance value are allowed. Specifying these uses also increases transparency about the use of allocated allowance value for both utilities and the general public. As for electrical distribution utilities, the use of allowance value by natural gas suppliers is not limited to those activities that relate directly to the consumption of natural gas.

New section 95893(d)(3)(A) allows natural gas supplier allocated allowance auction proceeds to be spent on energy efficiency, a key approach to reducing GHG emissions. This section delineates subcategories of energy efficiency activities to clarify the types of likely projects on which spending allocated allowance auction proceeds is allowed. Rebates for energy-efficient equipment and building energy efficiency retrofits benefit customers while reducing demand, thereby reducing GHG emissions. Other projects that reduce demand are allowed in order to identify flexibility in the types of projects that natural gas suppliers may implement using proceeds. All of these amendments are necessary to ensure clarity and flexibility in the use of allocated allowance auction proceeds.

New section 95893(d)(3)(B) provides natural gas suppliers flexibility to spend allocated allowance auction proceeds to reduce GHG emissions through methods that are not explicitly listed in the Regulation. Due to variation among utilities and over time, section 95893(d)(3)(A) may not list all the acceptable GHG-reducing activities that a natural gas supplier could undertake. New section 95893(d)(3)(B) allows natural gas suppliers to use allowance proceeds to reduce GHG emissions by methods not listed in section 95893(d)(3)(A), provided they demonstrate GHG emission reductions and meet other regulatory requirements. Fugitive methane emissions are specifically identified as a possible target for GHG-reducing activities because they a significant GHG emissions source relevant to natural gas suppliers. Natural gas suppliers may use allocated allowance value for fugitive methane reduction activities only if the project or activity is not already required by any federal, state, or local health and safety requirements, SB 1371 (Morrell, 2014), or the Oil and Gas Regulation.

New section 95893(d)(3)(C) allows natural gas supplier allocated allowance auction proceeds to be spent on non-volumetric return to ratepayers. Utilities have the option of returning allowance value to ratepayers rather than spending it on GHG-reducing programs or activities. Return to ratepayers must be non-volumetric, as currently required by the Regulation, in order to avoid counteracting the incentive to reduce GHG emissions. For clarity, new text states that utilities may provide this return to ratepayers either as a line item on their bills or by other means, such as by mailing checks to ratepayers.

Summary of New Section 95893(d)(4).

New section 95893(d)(4) defines allowed administrative and outreach costs. EDUs may use allocated allowance auction proceeds for administrative and outreach costs to the extent that they are necessary to implement the GHG-reducing activities covered by sections 95893(d)(3)(A)-(B) or the revenue return to ratepayers covered by section 95893(d)(3)(C). Natural gas suppliers may use allocated allowance auction proceeds for outreach costs as long as the outreach is supporting other uses of allowance value covered by sections 95893(d)(3)(A)-(C).

Rationale for New Section 95893(d)(4).

In recognition of the fact that the activities allowed by sections 95893(d)(3)(A)-(C) may require administration for implementation, new section 95893(d)(4) specifies that allowance value may be spent on administrative and outreach costs for the implementation of those activities. Administrative costs are limited to only those costs that are necessary to support the allowed uses in order to focus the majority of allocated allowance value on benefitting ratepayers and reducing GHG emissions through the uses specified in sections 95893(d)(3)(A)-(C). Outreach costs are included to the extent that these expenditures may be necessary to make potential beneficiaries aware of the activity and its benefits. For example, for an energy efficiency rebate program allowable outreach costs may include materials sent to ratepayers to promote awareness of the rebate and its energy, environmental and costs savings benefits. This section is necessary to clarify administrative or overhead costs are and are not allowed uses of allocated allowance value.

Summary of New Section 95893(d)(5).
New section 95893(d)(5) is added to specify that for each natural gas supplier use of allowance proceeds, the natural gas suppliers must demonstrate expected GHG emission reductions, unless proceeds are returned to ratepayers per section 95893(d)(3)(C) or support other allowed uses of allowance value per section 95893(d)(3)(D).

Rationale for New Section 95893(d)(5).
Requiring natural gas suppliers to demonstrate expected GHG emission reductions is necessary to ensure that the activities on which allocated allowance auction proceeds are spent reduce GHG emissions. This requirement also encourages utilities to consider GHG reductions when deciding how to use their allocated allowance value and will increase transparency regarding the GHG benefits of allocating allowances to natural gas suppliers.

Summary of Section 95893(d)(4) [New Section 95893(d)(6)].
Section 95893(d)(4) is renumbered to become section 95893(d)(6).

Rationale for Section 95893(d)(4) [New Section 95893(d)(6)].
This section is renumbered to accommodate the creation of the new sections 95893(d)(4) and 95893(d)(5).

Summary of Section 95893(d)(5) [New Section 95893(d)(7)].
Section 95893(d)(5) is renumbered to become section 95893(d)(7). The “benefit of retail ratepayers” is modified to “primary benefit of retail electricity ratepayers.” The section is modified to expressly prohibit the use of natural gas supplier allocated allowance value for the costs of complying with the Cap-and-Trade Regulation, except for those costs allowed pursuant to section 95893(d)(3)-(4), and to prohibit the use of natural gas supplier allocated allowance value for lobbying, employee bonuses and shareholder dividends.

Rationale for Section 95893(d)(5) [New Section 95893(d)(7)].
Changes to section 95893(d)(6) clarify prohibited uses of natural gas supplier allocated allowance value. The allowed uses of natural gas supplier allocated allowance value are described in section 95893(d)(3)-(4). These uses are allowed because they support retail ratepayers and further the goals of AB 32. Allowance allocation is not provided to natural gas suppliers to benefit shareholders or employees or subsidize regulatory costs, nor is it provided to assist utilities’ lobbying efforts, regardless of the goals or content of those efforts.

This section is renumbered to accommodate the creation of the new sections 95893(d)(4) and 95893(d)(5). The addition of “primary” and “natural gas” creates consistency with similar changes to section 95893(d)(3).

Summary of Section 95893(d)(6) [New Section 95893(d)(8)].
Section 95893(d)(6) is renumbered to become section 95893(d)(8). This section is amended to specify that natural gas supplier allocated allowance value received prior to October 1, 2017 must be used by December 31, 2027.

Rationale for Section 95893(d)(6) [New Section 95893(d)(8)].
This section is renumbered to accommodate the creation of the new sections 95893(d)(4) and 95893(d)(5). This section currently specifies that natural gas supplier allocated allowance value must be used within ten years after the vintage year of the allowances. This existing requirement became effective October 1, 2017. This amendment is needed to clarify the deadline for spending allocated allowance value received before October 1, 2017.

Summary of Section 95893(e).
Section 95893(e) is modified to replace the text “how any” with “the disposition of all,” referring to allocated allowance auction proceeds spent. The phrase “were spent” is removed.

Rationale for Section 95893(e).
These changes are necessary to clarify that natural gas supplier reporting on allocated allowance value must cover not only the proceeds spent, but also the status and usage (if any) of all allocated allowance auction proceeds the natural gas supplier had at any point during the previous year. Changes to the rest of 95893(e), discussed below, restructure this section to clarify and align with the shift from reporting on a vintage year basis to reporting on a calendar year basis.

Summary of New Section 95893(e)(1).
New section 95893(e)(1)is added to require reporting of unspent funds at the start of the previous calendar year.

Rationale for New Section 95893(e)(1).
This section is necessary to clarify that the reporting requirements include reporting on the balance of unspent funds, if any, at the start of the previous calendar year. These changes supports a full accounting of unspent proceeds and will also help track compliance with the 10 year spending requirement in 95893(d)(8).

Summary of Section 95893(e)(1) [New Section 95893(e)(2)].
The word “from” is replaced with “during” and the word “vintage” is removed. The phrase “and any other allocated allowance auction proceeds” is removed and the section is renumbered.

Rationale for Section 95893(e)(1) [New Section 95893(e)(2)].
These changes clarify the shift to reporting on a calendar year basis rather than a vintage year basis. The renumbering is necessary due to the addition of new section 95893(e)(1).

Summary of Section 95893(e)(3).
Section 95893(e)(3) is deleted.

Rationale for Section 95893(e)(3).
This section applied only to reporting due by June 30, 2018 and is no longer needed.

Summary of New Section 95893(e)(3).
New section 95893(e)(3) is added to incorporate and modify text from former section 95893(e)(1). New text clarifies that reporting must state the amount of all auction proceeds spent during the previous calendar year, regardless of the date when the proceeds were received, and state any balance of auction proceeds that remained unspent at the end of the previous calendar year.

Rationale for New Section 95893(e)(3).
These changes are needed to ensure that CARB receives a complete picture from each natural gas supplier of the disposition and status of all allocated allowance auction proceeds.

Summary of Section 95893(e)(2) [New Section 95893(e)(4)].
Section 95893(e)(2) is renumbered to section 95893(e)(4). This section is amended to reformulate the requirements to report on how allocated allowance auction proceeds expenditures during the previous year comply with the requirements of AB 32. New section 95893(e)(4)(A) clarifies that describing how allowance value is used to benefit ratepayers entails describing the nature, purpose, and amount of each expenditure and how the expenditure benefits ratepayers. New section 95893(e)(4)(B) requires that natural gas suppliers estimate GHG emission reductions for GHG-reducing uses of natural gas supplier allocated allowance value. GHG emission reduction estimation methods must utilize use-specific information, specified or comparable emission factors, time period of emission reductions, and percentage of costs covered by the allocated allowance auction proceeds. The proposed amendments specify that natural gas suppliers are to use their utility-specific emission factors for natural gas. Amendments also specify that natural gas suppliers are to use MRR or comparable emission factors for other non-transportation fuels and California Climate Investments (Greenhouse Gas Reduction Fund) methods or comparable methodology to calculate emission factors for vehicle miles travelled. Each year, CARB will calculate or approve an emission factor to be used for grid electricity and publish it on the CARB website. This grid electricity emission factor is intended to reflect the average annual emissions intensity of California's electricity sector. Staff anticipates that this grid electricity emissions factor will be based on total annual in-state and imported electricity emissions as reflected in the CARBS's GHG emission inventory[56] and in-state and imported electricity generation data from the California Energy Commission Energy Almanac.[57]. New section 95893(e)(4)(C) requires natural gas suppliers to itemize any uses of allocated allowance value for administrative and outreach costs to support other allowance value uses.

[56] *See* https://www.arb.ca.gov/cc/inventory/inventory.htm
[57] *See* http://www.energy.ca.gov/almanac/

Rationale for Section 95893(e)(2) [New Section 95893(e)(4)].
These changes are necessary to improve CARB tracking of how allowance allocation to natural gas suppliers is contributing to AB 32 goals. The restructuring of this section clarifies existing requirements and adds new specific requirements. Adding detail improves clarity regarding what is required. By requiring natural gas suppliers to estimate emission reductions expected from each use of proceeds and itemize necessary administrative and outreach costs, these changes also improve Program transparency and encourage natural gas suppliers to consider GHG emission reductions when making decisions about using allocated allowance value.

The proposed GHG estimation amendments combine structure and flexibility. Estimating the GHG emission reductions for a project or activity entails comparing the amount of energy used to the amount if that project or activity had not occurred. Standard emission factors for fuels and a statewide electricity factor will bring consistency to the calculations performed by multiple utilities. For transportation-related activities, the diversity of activities requires a diversity of emission factors, and California Climate Investments methodologies provide vetted approaches for calculating them. Time frames and cost contributions from proceeds are necessary to estimating GHG impacts. Structure provides a clear path to compliance, while flexibility in calculation methods accommodates a potential diversity of uses of allowance value. Taken together, the reporting requirements in section 95893(e)(4) will improve consistency in how natural gas suppliers are reporting to CARB and will increase transparency and public understanding about how natural gas supplier allocated allowance value is used.

Renumbering this section accommodates the creation of the new sections 95893(e)(1) and 95893(e)(3).

§ 95894. Allocation to Legacy Contract Generators for Transition Assistance.

Summary of Section 95894(a).
Section 95894(a) is modified to add the text “or legacy contract generator without an industrial counterparty.”

Rationale for Section 95894(a).
This change is necessary to correspond to changes in subarticle 8 that relate to allowance allocation for transition assistance to legacy contract generators without industrial counterparties. New text allows a legacy contract generator without an industrial counterparty to apply to receive allowance allocation.

Summary of Section 95894(a)(1).
Section 95894(a)(1) is modified to change the word “identification” to “identity.”

Rationale for Section 95894(a).
This change improves the clarity of the section.

Summary of New Section 95894(a)(1)(B).
New section 95894(a)(1)(B) is added to require that legacy contract generators without industrial counterparties report 2012 legacy contract emissions.

Rationale for New Section 95894(a)(1)(B).
This data forms the basis for allocation to legacy contract generators without industrial counterparties. The change is necessary in order to ensure appropriate data is used to enable allocation.

Summary of Section 95894(a)(3)(C).
Section 95894(a)(3)(C) is amended to add "or legacy contract generator without an industrial counterparty" to text in this section and to capitalize "Regulation."

Rationale for Section 95894(a)(3)(C).
The amendments are necessary to ensure the attestation provisions apply to and accommodate applications by legacy contract generators without an industrial counterparty.

Summary of Section 95894(b).
Section 95894(b) is amended to add "or 95894(d)" to list of sections cited.

Rationale for Section 95894(b).
This change was made because amendments add provisions for allowance allocation to legacy contract generators without an industrial counterparty and a reference to new section 95894(d) is needed to implement this change.

Summary of Section 95894(c)(1).
Section 95894(c)(1) is modified to add "as specified in Table 9-2" in the description of $c_{a,t}$.

Rationale for Section 95894(c)(1).
This change adds clarity to the definition of $c_{a,t}$.

Summary of Section 95894(c)(2).
Section 95894(c)(2) is amended to add the subscript "a" in $c_{a,t}$ and $c_{a,t-2}$ and to specify that "a" refers to the industrial activity of the legacy contract counterparty.

Rationale for Section 95894(c)(2).
This change adds clarity to the definitions of $c_{a,t}$ and $c_{a,t-2}$.

Summary of New Section 95894(d) (1)-(2).
New section 95894(d) is added to provide for allowance allocation after 2020 for legacy contract generators without industrial counterparties. If the generator is a stand-alone generator, its legacy contract transition assistance will be calculated based on its 2012 electricity emissions. If it is not, it will be calculated based on its 2012 electricity and steam production.

Rationale for New Section 95894(d) (1)-(2).
This new section is necessary to allocate allowances to legacy contract generators without industrial counterparties after 2020.

Summary of New Section 95894(e).
New section 95894(e) is added to enable allocation for past legacy contract transition assistance recipients which had part of their allocation deemed ineligible due to CARB's expectation that they would be able to receive compensation for its GHG costs. This part is allocated to these entities, for past years 2015-2018, in 2019 allowances.

Rationale for New Section 95894(e).
The addition of this section is necessary to correct previous legacy contract allowance allocation, based on updated information available to CARB. Only selected entities are affected, depending on the nature of their contracts.

Summary of 95894(d) [New Section 95894(f)].
Former section 95894(d) is renumbered to be new section 95894(f), the text "it" was replaced with "legacy contract generator,' and the text "or legacy contract generator without an industrial counterparty" was added.

Rationale for 95894(d) [New Section 95894(f)].
This section is renumbered to accommodate the creation of the new section 95894(d). "It" was replaced with "legacy contract generator" to clarify the text. The text "or legacy contract generator without an industrial counterparty" was added because amendments add provisions for allowance allocation to legacy contract generators without an industrial counterparty, and a reference to this classification of entities was needed in this section.

Summary of 95894(e) [New Section 95894(g)].
Former section 95894(e) is renumbered to be new section 95894(g) and "or legacy contract generator without an industrial counterparty" was added.

Rationale for 95894(e) [New Section 95894(g)].
This section is renumbered to accommodate the creation of the new section 95894(d). The text "or legacy contract generator without an industrial counterparty" was added because amendments add provisions for allocation to legacy contract generators without an industrial counterparty, and a reference to this classification of entities was needed in this section.

Subarticle 10: Auction and Sale of California Greenhouse Gas Allowances

§ 95911. Format for Auction of California GHG Allowances.

Summary of Section 95911(a)(4).
Section 95911(a)(4) is amended to remove the reference to whole U.S. dollars.

Rationale for Section 95911(a)(4).
This change is necessary to clarify that entities must submit bids in dollars and whole cents, rather than whole dollars. The term “whole dollars” would imply zero cents, so the term “whole U.S. dollars and whole cents” would restrict bids to whole dollar prices.

Summary of Section 95911(c)(2).
Section 95911(c)(2) is amended to consolidate duplicative language with section 95911(c)(5) and to provide that the Auction Reserve Price will be stated in the currency (or currencies) used by linked jurisdictions in addition to U.S. dollars.

Rationale for Section 95911(c)(2).
The changes to section 95911(c)(2) are necessary to remove duplication with section 95911(c)(5) and to allow for a joint announcement with linked jurisdictions of the Auction Reserve Price each year.

Summary of Section 95911(c)(5) [deleted].
The language from section 95911(c)(5) is included in section 95911(c)(2) and section 95911(c)(5) is removed.

Rationale for Section 95911(c)(5) [deleted].
The changes to section 95911(c)(5) are necessary to remove duplication with section 95911(c)(2).

Summary of Section 95911(e)(3)(C)
The reference to section 95912(j) is changed to section 95912(h).

Rationale for Section 95911(e)(3)(C)
This change is necessary to maintain consistent numbering given the renumbering of section 95912(j).

Summary of New Section 95911(f)(1)(C).
New section 95911(f)(1)(C) is added to add a new section to include allowances used to fulfill an untimely surrender obligation in the order of allowances sold. Allowances used to fulfill an untimely surrender obligation will be sold after allowances consigned from limited use holding accounts and prior to allowances redesignated to auction that were unsold in previous auctions.

Rationale for New Section 95911(f)(1)(C).
New section 95911(f)(1)(C) is needed to clarify the order of allowances sold to address a potential source of allowances sold at auction that was previously excluded from the order of allowances sold specified in section 95911(f)(1). Allowances used to fulfill an untimely surrender obligation will be sold after allowances consigned from limited use holding accounts because allowances used to fulfill an untimely surrender obligation are designated by CARB, and therefore must be sold after allowances consigned by or on behalf of entities. Allowances used to fulfill an untimely surrender obligation will be sold

first amongst allowances designated by CARB because they are likely to include allowances of various vintages prior to the current budget year.

Summary of Section 95911(f)(1)(C) [New Section 95911(f)(1)(D)].
This section is renumbered to be new section 95911(f)(1)(D).

Rationale for Section 95911(f)(1)(C) [New Section 95911(f)(1)(D)].
This change is needed to ensure correct numbering given the addition of new section 95911(f)(1)(C).

Summary of Section 95911(f)(1)(D) [New Section 95911(f)(1)(E)].
This section is renumbered to be new section 95911(f)(1)(E) and two commas and an "and" were deleted.

Rationale for Section 95911(f)(1)(D) [New Section 95911(f)(1)(E)].
This change is needed to ensure correct numbering given the addition of new section 95911(f)(1)(C). Section 95911(f)(1)(E) is amended to correct the grammar in the list of regulatory references.

Summary of New Section 95911(f)(3)(B).
New Section 95911(f)(3)(B) is added to state that allowances used to fulfill an untimely surrender obligation which remain unsold will remain in the Auction Holding Account for later auction.

Rationale for New Section 95911(f)(3)(B).
This change is needed to address the management of a potential source of allowances unsold at auction that was previously excluded from the management of unsold allowances specified in section 95911(f)(3).

Summary of Section 95911(f)(3)(B) [New Section 95911(f)(3)(C)].
This section is renumbered to be new section 95911(f)(3)(C), and is amended to add a reference to section 95910(c)(1)(B).

Rationale for Section 95911(f)(3)(B) [New Section 95911(f)(3)(C)].
This change is needed to ensure correct numbering given the addition of new section 95911(f)(3)(B) and to move the reference to 95910(c)(1)(B) from section 95910(c)(1)(D), which is being deleted.

Summary of Section 95911(f)(3)(C) [New Section 95911(f)(3)(D)].
This section is renumbered to be new section 95911(f)(3)(D).

Rationale for Section 95911(f)(3)(C) [New Section 95911(f)(3)(D)].
This change is needed to ensure correct numbering given the addition of new section 95911(f)(3)(B).

Summary of Section 95911(f)(3)(D) [deleted].
Section 95911(f)(3)(D) is removed.

Rationale for Section 95911(f)(3)(D) [deleted].
The change to section 95911(f)(3)(D) is necessary to remove duplication with new section 95911(f)(3)(C).

Summary of Section 95911(f)(4)(B).
Section 95911(f)(4)(B) is amended to change the regulatory reference from 95921(g)(3) to 95910(d)(2).

Rationale for Section 95911(f)(4)(B).
This change is necessary to change the reference to allowances withdrawn from accounts containing allowances in excess of the holding limit and allowances withdrawn from suspended or revoked accounts, consistent with section 95911(f)(1)(A). Otherwise allowances from holding limit violations are not specified as remaining in the Auction Holding Account until sold.

The reference to section 95921(g)(3) only covers allowances withdrawn from suspended or revoked accounts. By changing the reference to section 95910(d)(2), this section now covers allowances withdrawn from accounts containing allowances in excess of the holding limit and allowances withdrawn from suspended or revoked accounts.

Summary of Section 95911(g).
Section 95911(g) is modified to delete some existing text and to add a title to the section. The text originally contained in section 95821(b)(1)(D)(3.) is added to clarify that only unsold allowances originally designated for auction by CARB are eligible for the transfer, not allowances consigned pursuant to section 95910(d).

Rationale for Section 95911(g).
This change is needed to remove text that is no longer needed and to clarify the timing by which CARB will transfer unsold allowances to the Reserve. This change clarifies the timing by indicating that CARB will transfer unsold allowances to the Reserve no later than the surrender deadlines specified in the Regulation. This clarification is needed to ensure market participants understand when these allowances would be transferred to the Reserve.

Summary of Section 95911(h) and New Section 95911(h)(1).
The proposed changes delete all content in Section 95911(h), moves the original content to section 95912(i), and inserts a title specifying that this section now relates to retiring allowances due to bankruptcies and EIM Outstanding Emissions.

The proposed new section 95911(h)(1) requires that in the event that a bankrupt covered entity cannot fulfill its compliance obligations, CARB will retire allowances from

the budget year two years after the current allowance budget year that is not already allocated to entities. This procedure will take effect in 2019.

Rationale for Section 95911(h) and New Section 95911(h)(1).
Section 95911(h) is moved to section 95912(i) to clarify that the text is related to auction administration and participant eligibility and approval rather than the format for auction of California GHG allowances.

The added title is needed to introduce the new section.

New section 95911(h)(1) is needed to clarify the source of allowances and the timing of the distribution of allowances used to backfill uncovered outstanding emissions obligations from bankrupt covered entities, where such compliance obligation is not otherwise accounted for by section 95835(b). This is needed to protect the environmental stringency of the California Cap-and-Trade Program in the case of unfulfilled emissions obligations from bankrupt covered entities.

Summary of New Section 95911(h)(2).
New section 95911(h)(2) is added to identify the mechanism for addressing 2018 and 2019 EIM Outstanding Emissions through March 31, 2019. CARB proposes to retire allowances from the allowance budget two years after the current allowance budget year that is not already allocated to entities.

Rationale for New Section 95911(h)(2).
New section 95911(h)(2) is needed to ensure clarity in which source of allowances will be retired to meet uncovered outstanding emissions obligations from EIM Outstanding Emissions for data years 2018 through March 31 of data year 2019. This is needed to protect the environmental stringency of the California Cap-and-Trade Program in the case of uncovered outstanding emissions obligations from EIM Outstanding Emissions.

§ 95912. Auction Administration and Participant Application.

Summary of Section 95912(c)(6).
Section 95912(c)(6) is modified to remove the reference to “from California.” At the end of the sentence, the period is replaced with a semicolon and the word “and.”

Rationale for Section 95912(c)(6).
The change to section 95912(c)(6) is needed to clarify that the auction notice provides the total number of allowances that will be available at auction, not specifically the number of allowances from California in the event of a joint auction, to be consistent with section 95912(c)(8).

Summary of Section 95912(c)(8).
Section 95912(c)(8) is amended to state that the number of allowances listed in an auction notice may include allowances from linked jurisdictions. This section is also

amended to state that the auction administrator may modify an auction notice to reflect changes in allowances available up until 30 days prior to an auction.

Rationale for Section 95912(c)(8).
The changes to section 95912(c)(8) are needed to clarify that a linked jurisdiction may choose to not offer allowances in a joint auction, and to allow for modifications to an auction notice to reflect such a decision should it occur between 60 days and 30 days prior to an auction.

Summary of Section 95912(d).
The title of this section is changed from "Auction Participation Application Requirements" to "Auction Eligibility."

Rationale for Section 95912(d).
The change to section 95912(d) is necessary to clarify the distinction between requirements for auction eligibility and auction eligibility information that must be provided by an entity described in section 95912(d) and the process of auction participant approval described in section 95912(e).

Summary of Section 95912(d)(1).
Section 95912(d)(1) is amended to change "participant application" to "eligibility."

Rationale for Section 95912(d)(1).
The change to section 95912(d)(1) is necessary to be consistent with the amendment to section 95912(d).

Summary of Section 95912(d)(2).
Section 95912(d)(2) is amended to state that only an entity registered into the Cap-and-Trade Program is eligible to participate in an auction. This section is also amended to replace "as provided in" with "pursuant to."

Rationale for Section 95912(d)(2).
The change to section 95912(d)(2) is necessary to be consistent with the amendment to section 95912(d).

Summary of Section 95912(d)(3).
This section is amended to replace "cannot" with "is not eligible to." This section is also amended to make the word "section" plural.

Rationale for Section 95912(d)(3).
The change to section 95912(d)(3) is necessary to be consistent with the amendment to section 95912(d).

Summary of Section 95912(d)(4).
Section 95912(d)(4) is amended to state the auction eligibility information that must be provided to be declared eligible for auction participation pursuant to section 95912(d).

Rationale for Section 95912(d)(4).
The change to section 95912(d)(4) is necessary to ensure clarity in what information must be provided by an entity to be declared eligible for auction participation.

Summary of Section 95912(d)(4)(A) [deleted].
This section is removed.

Rationale for Section 95912(d)(4)(A) [deleted].
This section is removed because the corporate identity, ownership, and capital structure information referred to in this section is covered in section 95833 and referred to in section 95912(d)(4)(B) [new section 95912(d)(4)(A)].

Summary of Section 95912(d)(4)(B) [New Section 95912(d)(4)(A)].
Section 95912(d)(4)(B) is amended to include a reference to section 95833(e)(4), which governs the timing requirement for disclosure of certain corporate association information for entities intending to participate in an auction. The reference to section 95914(d) is changed to section 95911(d). The section is renumbered to section 95912(d)(4)(A).

Rationale for Section 95912(d)(4)(B) [New Section 95912(d)(4)(A)].
This amendment is necessary to clarify that the timing requirement for disclosure of certain corporate association information for an entity that intends to participate in an auction is governed by section 95833(e)(4) and not by 95912(d)(4). The reference change from 95914(d) to 95911(d) is a correction to a typographical error. The section is renumbered to reflect removed section 95912(d)(4)(A).

Summary of Section 95912(d)(4)(C)-(E) [New Section 95912(d)(4)(B)-(D)].
These sections are renumbered to reflect the deletion of section 95912(d)(4)(A).

Rationale for Section 95912(d)(4)(C)-(E) [New Section 95912(d)(4)(B)-(D)].
This amendment is necessary to maintain correct numbering.

Summary of Section 95912(d)(5).
This section is amended to change “auction application information” to “auction eligibility information” and “participation in the auction” to “eligibility for the auction.” This section is amended to state that auction eligibility may be denied if there are any material changes to auction eligibility information within 30 days prior to an auction. In one instance, “subsection” is revised to be “section.”

Rationale for Section 95912(d)(5).
The amendment is necessary to be consistent with amended section 95912(d) and to clarify that auction eligibility may be denied if there are any material changes to auction eligibility information provided within 30 days prior to an auction. The revision of the term “subsection” to “section” is necessary to use the correct term, without changing meaning.

Summary of Section 95912(e) [deleted].
Former section 95912(e) is deleted.

Rationale for Section 95912(e) [deleted].
Removal of section 95912(e) is necessary to clarify that the Executive Officer does not maintain an entity's auction participant approval for subsequent auctions once the Executive Officer has approved an entity's auction participant application for an auction. Additionally, the removal of the current text in section 95912(e) is necessary to remove duplication with amended section 95912(d)(5), which now includes the specification on the timing for when an auction application may be denied.

Summary of Section 95912(f) [New Section 95912(e)].
The title of section 95912(f) [new section 95912(e)] is changed to "Auction Participation Approval" from "Auction Intent to Bid Notification Requirements." A sentence is added to this section stating that an entity must be declared eligible for auction participation pursuant to 95912(d) before it can be approved for auction participation.

Rationale for Section 95912(f) [New Section 95912(e)].
The change to section 95912(f) [new section 95912(e)] is necessary to be consistent with the amendment to section 95912(d) and to clarify that an entity must be declared eligible for auction participation pursuant to section 95912(d) before it can be approved for auction participation.

Summary of Section 95912(g) [deleted].
Section 95912(g) is removed.

Rationale for Section 95912(g) [deleted].
Removal of section 95912(g) is necessary to remove duplication with requirements for disclosure of auction participation information as described in section 95914(c). The exception for the Auction Administrator is no longer required.

Summary of Section 95912(h) [New Section 95912(f)].
Former section 95912(h) is renumbered section 95912(f). This section is amended to change "information contained in the auction application" to "auction eligibility information submitted pursuant to section 95912(d)(4)." The reference to 95912(k)(5) is changed to 95912(i)(5).

Rationale for Section 95912(h) [New Section 95912(f)].
The change to section 95912(h) is necessary to be consistent with the amendment to section 95912(d). The change in section number and reference to new section 95912(i)(5) are needed to ensure correct numbering given the deletion of sections 95912(e) and 95912(g).

Summary of Section 95912(i) [New Section 95912(g)].
This section is renumbered to be new section 95912(g).

Rationale for Section 95912(i) [New Section 95912(g)].
This change is needed to ensure correct numbering given the deletion of sections 95912(e) and 95912(g).

Summary of Section 95912(j) [New Section 95912(h)].
This section is renumbered to be new section 95912(h).

Rationale for Section 95912(j) [New Section 95912(h)].
This change is needed to ensure correct numbering given the deletion of sections 95912(e) and 95912(g).

Summary of Section 95912(j)(1) [New Section 95912(h)(1)].
This section is renumbered to be new section 95912(h)(1) and two commas are added.

Rationale for Section 95912(j)(1) [New Section 95912(h)(1)].
This change is needed to correct grammar and ensure correct numbering given the deletion of sections 95912(e) and 95912(g).

Summary of Section 95912(j)(2) [New Section 95912(h)(2)].
This section is renumbered to be new section 95912(h)(2).

Rationale for Section 95912(j)(2) [New Section 95912(h)(2)].
This change is needed to correct grammar and ensure correct numbering given the deletion of sections 95912(e) and 95912(g).

Summary of Section 95912(j)(3) [New Section 95912(h)(3)].
Section 95912(j)(3) is amended to state that letters of credit and bonds submitted as bid guarantees must be payable within three days of payment request, and must allow payment requests to be made electronically via facsimile, or other electronic form accepted by the financial services administrator. This section is renumbered to be new section 95912(h)(3).

Rationale for Section 95912(j)(3) [New Section 95912(h)(3)].
This amendment is needed to clarify requirements for payment requests to ensure financial settlement of an auction is completed in a timely manner. Delivery of a payment request by physical presentment at a bank office may delay payment past the time required to complete financial settlement of an auction because it could require financial services administrator to travel outside of the jurisdiction they operate to physically present a payment request. The renumbering is needed to ensure correct numbering given the deletion of sections 95912(e) and 95912(g).

Summary of Section 95912(j)(9) [New Section 95912(h)(9)].
The reference to section 95912(j)(1) is changed to section 95912(h)(1).

Rationale for Section 95912(j)(9) [New Section 95912(h)(9)].
This change is necessary to maintain proper references given the renumbering of section 95912(j).

Summary of Section 95912(k) [New Section 95912(i)].
Former section 95912(k) is renumbered to be new section 95912(i).

Rationale for Section 95912(k) [New Section 95912(i)].
This change is needed to ensure correct numbering given the deletion of sections 95912(e) and 95912(g).

Summary of New Section 95912(j).
Former section 95911(h) has been moved to new section 95912(j). The section includes amended text in new section 95912(j) which states that the auction bidding window may be delayed, rescheduled, or cancelled to protect the environmental stringency of the California Cap-and-Trade Program.

Rationale for New Section 95912(j).
Section 95911(h) is deleted and moved to section 95912(j) to clarify that the text is related to auction administration and participant eligibility and approval rather than the format for auction of California GHG allowances.

The new requirement is necessary to allow changes to the auction bidding window that may result from delays in a linked jurisdiction's decision to offer allowances in a joint auction in order to protect the environmental stringency of the California Cap-and-Trade Program.

§ 95913. Sale of Allowances from the Allowance Price Containment Reserve.

Summary of Section 95913(d)(1)(A).
Staff is proposing to include text to clarify that the Executive Officer may revise the timing of Reserve sales, including the date an entity must inform the Reserve Sale Administrator of its intent to participate in a Reserve sale pursuant to subsection 95913(f) and the date an entity must submit to the financial services administrator a bid guarantee pursuant to subsection 95913(g), by up to four business days. Additionally, staff is proposing to remove text from the section that, beginning in 2021, creates a "trigger" for holding Reserve sales that would be met if the Current Auction held in the previous quarter resulted in an auction settlement price greater than or equal to 60% of the Reserve sale price.

Rationale of Section 95913(d)(1)(A).
The text added is moved from current section 95913(g)(7) to maintain required flexibility in the timing of Reserve sales that are held, with changes made to ensure consistency with the proposed amended text in sections 95913(f) and 95913(g). The change to section 95913(d)(1)(A) removing text is necessary to remove redundant text. The

trigger for the quarterly Reserve sale is already stated in the preceding paragraph and will continue to remain the same after 2021.

Summary of New Section 95913(d)(2)(A).
The new section requires the Reserve sale administrator to offer all of the allowances in the Reserve at each sale.

Rationale of New Section 95913(d)(2)(A).
The new section is needed because the Reserve is intended to be a purchase window of last resort where covered entities can buy what they need for compliance. To this end, no allowances in the Reserve are held back from the sale.

Summary of Section 95913(e) [deleted].
Former section 95913(e) is deleted.

Rationale of Section 95913(e) [deleted].
The change is needed to reflect the reorganization of the section and to reflect a staff proposal to delete the title "Reserve Sale Intent to Bid Notification Requirements" and use the titles "Reserve Sale Eligibility" and "Reserve Sale Participation Approval" to ensure consistency with section 95912 related to auctions.

Summary of New Section 95913(e).
New section 95913(e) is added. The title of this section is changed from "Reserve Sale Intent to Bid Notification Requirements" to "Reserve Sale Eligibility" and to state that an entity that intends to participate in a Reserve sale must be declared eligible for Reserve sale participation before it can be approved for Reserve sale participation.

Rationale of New Section 95913(e).
The new section is needed to clarify the distinction between requirements for Reserve sale eligibility and Reserve sale intent to bid notification requirements and to clarify that an entity must be declared eligible for Reserve sale participation before it can be approved for Reserve sale participation.

Summary of Section 95913(f) [deleted].
Former section 95913(f) is deleted.

Rational for Section 95913(f) [deleted].
The change is needed to reflect the reorganization of the section and to reflect a staff proposal to eliminate the existing borrowing provision that could be used to replenish the existing top tier of the Reserve. This deletion is necessary because the borrowing mechanism has been replaced by section 95915, which contains the provisions implementing the price ceiling. AB 398 mandated the creation of the price ceiling, at which CARB would make available to covered entities, on a metric-ton for metric-ton basis, as needed, allowances and additional reductions (called price ceiling units in these amendments) at a fixed price. This renders the borrowing mechanism unnecessary, so staff proposes to remove it.

Summary of New Section 95913(f).
The new section 95913(f) is added. This section specifies reserve sale participation approval requirements. The provision specifies that entities intending to participate in a Reserve sale must provide at least 20-days notice and the entity must be declared eligible for participation.

Rational for New Section 95913(f).
The new section is necessary to clearly establish the procedure for applying to participate in a Reserve sale.

Summary of Section 95913(g)(7) [Deleted].
Section 95913(g)(7) is deleted.

Rationale for New Section 95913(g)(7) [Deleted]..
The requirements of section 95913(g)(7) have been moved to section 95913(d)(1)(A), and as such, section 95913(g)(7) is no longer needed.

Summary of New Section 95913(h).
The new text contains a title.

Rationale for New Section 95913(h).
The change is needed to introduce a new section that contains the structure of the Reserve.

Summary of New Section 95913(h)(1).
The new text contains a title.

Rationale for New Section 95913(h)(1).
The change is needed to introduce provisions that define the tier structure of the Reserve.

Summary of New Section 95913(h)(1)(A).
New section 95913(h)(1)(A) specifies allowances allocated to the Reserve by section 95870(a) will be divided into three equal-sized tiers. In addition, two-thirds of the allowances originally allocated to the Reserve pursuant to section 95870(a) will not be made available at Reserve sales until 2021.

Rationale for New Section 95913(h)(1)(A).
The change is needed to explain that the source of allowances that are currently in the Reserve is from the allowance budget years 2013 through 2020. The new text also explains that the allowances will be divided equally among three Reserve tiers.

The removal for two-thirds of the allowances initially allocated to the Reserve from budget years through 2020 is needed to implement a mandate from AB 398 to

sequester the allowances until 2021 and make them available at the new Reserve pricing points.

Summary of New Section 95913(h)(1)(B).
New Section 95913(h)(1)(B) provides that in 2021 the Reserve will be changed from three tiers to two.

Rationale for New Section 95913(h)(1)(B).
The change is needed to implement a new two tier Reserve to reflect the requirement in AB 398 that CARB establish two price containment points at levels below the price ceiling.

Summary of New Section 95913(h)(1)(C).
The new text requires the Executive Officer to take the allowances remaining in the lower two tiers of the Reserve and distribute them evenly between the two tiers of the new Reserve.

Rationale for New Section 95913(h)(1)(C).
The change is needed to implement a new two tier Reserve to reflect the requirement in AB 398 that CARB establish two price containment points at levels below the price ceiling.

Summary of New Section 95913(h)(1)(D).
New section 95913(h)(1)(D) places 22,726,000 allowances allocated pursuant to section 95871(a) into the second Reserve tier in 2021.

Rationale for New Section 95915(h)(1)(D).
The new section is needed to clarify the destination for allowances being allocated to the Reserve. Under the current Regulation, there is only one Reserve tier. Pursuant to the directives contained in AB 398, CARB is creating two new post-2020 Reserve tiers at prices below the price ceiling, creating a need to specify the tiers to which existing allowances are being allocated. This 22,726,000 is specified to account for the change in the quantitative offset usage limit from 4 percent to 6 percent in 2026 and is proposed to be placed into the second Reserve tier.

Summary of New Section 95913(h)(1)(E).
New section 95913(h)(1)(E) provides that allowances allocated to the Reserve pursuant to section 95871(a) will be divided evenly between the two new post-2020 Reserve tiers, except for the allowances already allocated pursuant to section 95915(h)(1)(D).

Rationale for New Section 95915(h)(1)(E).
The new section is needed to clarify the destination for allowances being allocated to the new post-2020 Reserve. Under the current Regulation, there is only one Reserve tier. Pursuant to the directives contained in AB 398, CARB is creating two new Reserve tiers at prices below the price ceiling, creating a need to specify the tiers to which existing allowances are being allocated.

Summary of New Section 95913(h)(2).
The new text contains a title.

Rationale for New Section 95913(h)(2).
The new text is needed to introduce a section dealing with the disposition of allowances that remain unsold at auction for more than 24 months.

Summary of New Section 95913(h)(2)(A).
The new text requires that through December 31, 2020, all allowances transferred to the Reserve pursuant to section 95911(g) will be divided evenly between the three new Reserve price tiers.

Rationale for New Section 95913(h)(2)(A).
The change is needed to explain the distribution of allowances remaining unsold for 24 months through 2020. Existing regulation text contains the requirement that unsold allowances are to be transferred to the Reserve, but does not specify the distribution between Reserve tiers.

Summary of New Section 95913(h)(2)(B).
This new section adds a new requirement that, after 2020, all allowances transferred to the Reserve after remaining unsold at auction for 24 months will be divided evenly between the two new Reserve price tiers.

Rationale for New Section 95913(h)(2)(B).
The change is needed to explain the distribution of allowances remaining unsold for 24 months after 2020. The change implements a directive contained in AB 398.

Summary of New Sections 95913(h)(3)(A)-(C).
This new section contains text that was deleted from existing section 95913(f)(3)(A)-(C). This section retains the three original Reserve tier prices set in 2013. In 2013, the tier prices were $40, $45, and $50.

Rationale for New Sections 95913(h)(3)(A)-(C).
The change is needed in order to preserve the current tier pricing structure through 2020.

Summary of New Section 95913(h)(4).
Section 95913(f)(4) is amended and renumbered to new section 95913(h)(4) and specifies the rate of increase for Reserve tier prices from 2014 through 2020. It contains the provision that is deleted from existing section 95913(f)(4).

Each year since 2013, the escalation mechanism contained in this section was used to escalate the three tier prices set in in new section 95913(h)(3)-(C). Specifically, each price was increased by 5 percent plus the rate of inflation as measured by the most

recently available twelve month value of the Consumer Price Index for All Urban Consumers.

Rationale for New Section 95913(h)(4).
The new text is needed to escalate the three Reserve tier prices through 2020 in a manner consistent with their escalation since 2013 and similar to the escalation for the Auction Reserve Price.

Summary of New Sections 95913(h)(5)(A)-(B).
New sections 95913(h)(5)(A)-(B) are added to specify the prices for the new first and second Reserve tiers in 2021.

Rationale for New Sections 95913(h)(5)(A)-(B).
The creation of new sections 95913(h)(5)(A)-(B) is necessary to specify the Reserve tier structure and prices in 2021. AB 398 directs CARB to establish two price containment points at levels below the price ceiling, which CARB proposes to effectuate by creating a two-tier Reserve. AB 398 provides flexibility for CARB to determine the appropriate price for each of the two Reserve tiers. Refer to the Staff Report *Chapter 2, Section i, Proposed Amendments to the Reserve in This Rulemaking* for a detailed discussion of how the new Reserve tier prices were established.

Summary of New Sections 95913(h)(6).
New section 95913(h)(6) is added to set the annual rate of increase for each of the two Reserve tiers after 2021. The annual rate for the lower new Reserve tier price is 5 percent plus the rate of inflation as measured by the most recently available twelve month value of the Consumer Price Index for All Urban Consumers. The annual rate for the higher new Reserve tier price is 5 percent plus the rate of inflation as measured by the most recently available twelve month value of the Consumer Price Index for All Urban Consumers.

Rationale for New Sections 95913(h)(6).
New section 95913(h)(6) is needed to establish the annual rate of increase in the two new Reserve tier prices after 2021. The regulation applies the same rates to each tier in order to maintain a roughly proportional difference between each of the two Reserve price tiers and the price ceiling. The lower new Reserve tier is set initially at 50 percent of the difference between the Auction Reserve Price and the Price Ceiling, while the higher new Reserve tier is set at 75 percent of the difference.

Summary of Section 95913(h) [New Section 95913(i)].
Existing section 95913(h) is renumbered to 95913(i).

Rationale for Section 95913(h) [New Section 95913(i)].
The change is needed to reflect the addition of new section 95913(h).

Summary of Section 95913(h)(1)(A) [New section 95913(i)(1)].
This section is modified for clarity by removing references. The modified text is also moved to section 95913(i)(1).

Rationale for Section 95913(h)(1)(A) [New section 95913(i)(1)].
The modification is needed for clarity. References to the sources of allowances for the Reserve are removed because they duplicate other existing sections that determine the sources of allowances for the Reserve. In addition, the specification of sources of allowances for the Reserve is not needed in a section intended to state that the Reserve sale will continue until all the allowances are sold or there are no more bids to fill.

Summary of Section 95913(h)(1)(B) [deleted].
This section is deleted. This removes a provision that states that the last Reserve sale before a compliance event will continue until all allocated allowances and all allowances borrowed from future vintages are sold or all accepted bids filled.

Rationale for Section 95913(h)(1)(B) [deleted].
Section 95913(h)(1)(B) is no longer needed because the borrowing mechanism has been replaced by the Price Ceiling mandated by AB 398.

Summary of Section 95913(h)(4)(B). [New Section 95913(i)(4)(B)].
The existing text is modified to clarify that bundles of 1,000 allowances will be sold, not individual allowances, and to change the reference to section 95913(h)(4)(A) to be section 95913(i)(4)(A).

Rationale for Section 95913(h)(4)(B)). [New Section 95915(i)(4)(B)].
The changes are necessary to maintain correct numbering in the document given the renumbering of section 95913(h) to section 95913(i) and to clarify the sale determination process. Unlike the auction, there is no tie breaker in the Reserve sale that would result in in the sale of allowances not contained in bundles of 1,000 allowances.

Summary of Section 95913(h)(5)(B). [New Section 95913(i)(5)(B)].
The existing text is modified to change the reference to section 95913(h)(5)(A) to be section 95913(i)(5)(A).

Rationale for Section 95913(h)(5)(B)). [New Section 95915(i)(5)(B)].
The changes are necessary to maintain correct numbering in the document given the renumbering of section 95913(h) to section 95913(i).

Summary of Section 95913(h)(6). [New Section 95913(i)(6)].
To references are modified and the existing text is edited for clarity. The two references to existing section (h)(4) and (h)(5) are modified to sections (i)(4) and (i)(5).

Rationale for Section 95913(h)(6). [New Section 95915(i)(6)].
The change is needed for clarity and to reflect the reorganization of the section.

Summary of Section 95913(i) [New Sections 95913(j)].
Section 95913(i) is renumbered to new section 95913(j).

Rationale for Section 95913(i). [New Section 95915(j)].
This change is necessary to account for the addition of new section 95913(h).

Summary of Section 95913(j) [deleted].
Existing section 95913(j) is deleted.

Rationale for Section 95913(j) [deleted].
The deletion is needed because the requirement duplicates existing requirement 95913(b).

Summary of Sections 95913(k), (l), (m) and (n) [deleted].
These sections are deleted.

Rationale for Sections 95913(k), (l), (m) and (n) [deleted].
Existing sections 95913(k), (l), (m) and (n) are no longer necessary because they implemented a single-tier Reserve structure after 2020. Staff is removing the single-tier Reserve structure to implement the new two-tier Reserve as directed by AB 398. The sections contained the single Reserve tier structure and sales mechanism appropriate for a single tier structure. These additional procedures are unnecessary because both the existing three-tier and two-tier new Reserve structures can use the same sales mechanism.

§ 95915. Sale of Allowances from the Price Ceiling

Summary of New Section 95915.
New section 95915 contains the requirements that allow covered entities to purchase allowances or price ceiling units at price ceiling sales. The section restricts eligibility to covered entities whose outstanding compliance obligation due at an upcoming compliance event is greater than the number of compliance instruments the entity holds. The new section also contains the terms of sale and process for transferring price ceiling units to the purchasing entity's compliance account when necessary. Finally, the section includes an initial process which describes price ceiling units and requirements for approving them. Since price ceiling units, if they were to become necessary, would not be eligible for use until surrender obligations are due for the 2021 data year (e.g., meaning in 2022), additional regulatory modifications through a future rulemaking will likely be necessary to further define the approval process.

Rationale for New Section 95915.
This new section is needed to enable CARB to implement the AB 398 mandated price ceiling, and to enable CARB to offer designated allowances and price ceiling units (on a metric-ton per metric-ton basis, as needed) to covered entities at a fixed price.

Summary of New Section 95915(a).
New section 95915(a) establishes the administrative structure for sales from the price ceiling. It authorizes the Executive Officer to serve as the sales administrator or to appoint an entity to serve as sale administrator. It also authorizes the auction Financial Services Administrator to conduct the financial transactions that would result in sales from the price ceiling.

Rationale for New Section 95915(a).
The new section is needed to ensure clear authorization for individuals or entities to conduct the operations needed to implement the price ceiling. The sale administrator will be responsible for ensuring that allowances or price ceiling units purchased at the sales will be properly credited to the purchasing entities when the compliance event is held.

The section also authorizes the entity serving as auction administrator to conduct the financial transactions associated with the sale. This is necessary to align the price ceiling sales provisions with the sale provisions for auctions and Reserve sales.

Summary of New Section 95915(b)(1)-(b)(2).
New section 95915(b)(1)-(b)(2) sets forth the criteria governing who may purchase allowances and price ceiling units at price ceiling sales. Only California covered and opt-in covered entities may participate in these sales. These entities may only purchase allowances and price ceiling units if their outstanding compliance obligation, due at the next compliance event, is greater than the number of compliance instruments the entity currently holds in its holding and compliance accounts. The number of allowances and price ceiling units that the entity may purchase is limited to this difference.

Rationale for New Section 95915(b)(1)-(b)(2).
The new section is needed because AB 398 mandates that “the state board shall offer covered entities additional metric tons at the price ceiling if needed for compliance.” As such, the section is needed to ensure that only California entities with a compliance obligation may access the Price Ceiling, and to ensure they are only purchasing what they need for compliance.

Summary of New Section 95915(c).
New section 95915(c) provides that price ceiling sales will begin in 2021.

Rationale for New Section 95915(c).
The new section is needed to establish clear timing of when price ceiling sales will commence.

Summary of New Section 95915(d).
New section 95915(d) provides that the sale administrator will schedule price ceiling sales only if no allowances remain in the first Reserve tier.

Rationale for New Section 95915(d).
The new section is needed to clearly establish the conditions for when price ceiling sales will occur.

Summary of New Section 95915(e).
New section 95915(e) provides that price ceiling sales will be scheduled after the last Reserve sale before a compliance event is completed and a compliance event.

Rationale for New Section 95915(e).
The new section is needed to inform entities of when the price ceiling sales will be held. The timing before the compliance event reflects the AB 398 directive that "the state board shall offer covered entities additional metric tons at the price ceiling if needed for compliance."

Summary of New Sections 95915(f) and (f)(1).
New sections 95915(f)(1) and (f)(1) consist of titles that introduce requirements for the price ceiling sales.

Rationale for New Sections 95915(f) and (f)(1).
The new sections are needed to clearly introduce the set of requirements governing price ceiling sales.

Summary of New Sections 95915(f)(1)(A) through (f)(1)(C).
New sections 95915(f)(1)(A) through (f)(1)(C) set out the terms for price ceiling sales.

Section 95915(f)(1)(A) sets the fixed price at which entities may purchase allowances and price ceiling units beginning in 2021 at $65. Section 95915(f)(1)(B) sets the annual rate at which the purchase price will escalate after 2021 at 5 percent plus an inflation adjustment. The inflation adjustment is the most recently available twelve month value of the Consumer Price Index for All Urban Consumers.

Section 95915(f)(1)(C) provides the dates between which an entity may submit the required cash payment. The financial services administrator will accept payments beginning no earlier than ten business days after a Reserve sale, and will cease accepting payments seven business days after that.

Rationale for New Sections 95915(f)(1)(A) through (f)(1)(C).
These new sections are needed to inform eligible entities of the steps they must take to participate in price ceiling sales and when to send money to the financial services administrator. Staff set the initial price in 2021 at $65. As explained in Chapter 2 of this Staff Report, CARB set this initial price to be above the price generally thought to be high enough to support the adoption of feasible emissions reductions technologies. The escalation mechanism is needed to ensure that the price rises over time to encourage adoption of newer technologies and is consistent with the escalation of the Auction Reserve Price and the two new Reserve tiers.

The dates are set so that a purchasing entity would know how many allowances it bought at the most recent Reserve sale, yet still have time to obtain allowances or price ceiling units before the next compliance event. Staff considers giving covered entities seven business days to submit payment is sufficient for covered entities to meet their compliance needs.

Summary of New Section 95915(f)(2).
New section 95915(f)(2) requires the financial services administrator to inform the Executive Officer of the cash payments it has received from the entities participating in a price ceiling sale no later than one day after it ceases to accept payments.

Rationale for New Section 95915(f)(2).
This section is needed to give the Executive Officer clear information of the value of cash payments made by a participating entity. The Executive Officer would need this to determine the number of allowances or price ceiling units each participating entity has purchased. The schedule ensures that the Executive Officer has sufficient time to transfer allowances or price ceiling units by the surrender deadline.

Summary of New Section 95915(f)(3).
New section 95915(f)(3) provides that the Executive Officer will determine the number of allowances or price ceiling units each entity has purchased by dividing the amount of each entity's payment by the price prevailing at the price ceiling sale and rounding down to the nearest whole unit.

Rationale for New Section 95915(f)(3).
The new section is needed to explain how CARB will determine the number of allowances or price ceiling units purchased, so that entities may determine the amount of payment to make. The text also clarifies that no fractional tons will be sold by indicating that sales will be rounded down to the nearest whole allowance or price ceiling unit.

Summary of New Section 95915(f)(3)(A).
New section 95915(f)(3)(A) provides that the Executive Officer will fulfill all purchases with allowances if sufficient allowances remain in the Price Ceiling Account.

Rationale for New Section 95915(f)(3)(A).
The new section is needed to explain that the Executive Officer will first attempt to fulfill all purchase requests with allowances, but will do so only if there are sufficient allowances available.

Summary of New Section 95915(f)(3)(B).
New section 95915(f)(3)(B) provides that if there are insufficient allowances in the Price Ceiling Account to fulfill all purchases, the Executive Officer will prorate the remaining allowances to purchasing entities and full fill the remainder of the purchases using price ceiling units. The proration will be calculated as the share of allowances remaining in the Price Ceiling Account to the total purchases.

Rationale for New Section 95915(f)(3)(B).
The new section is needed to explain how the Executive Officer will fulfill purchases from the Price Ceiling Account when there are not sufficient allowances to fulfill all purchases. The procedure will provide each purchasing entity with the same proportion of allowances and price ceiling units.

Summary of New Section 95915(f)(3)(C).
New section 95915(f)(3)(B) provides that if there are no allowances remaining in the Price Ceiling Account, the Executive Officer will fulfill the purchases using only price ceiling units.

Rationale for New Section 95915(f)(3)(C).
The new section is needed to explain how the Executive Officer will fulfill the requests when only price ceiling units remain in the price ceiling.

Summary of New Section 95915(g).
The new section provides that in 2021, price ceiling units will be valid for surrender against a compliance obligation immediately after being transferred to a compliance account. They can then be used for compliance after all other compliance instruments have been withdrawn in the order contained in sections 95856(h)(1) and 95856(h)(2).

Rationale for New Section 95915(g).
The new section is needed to explain to covered entities that the price ceiling units they purchase may be used immediately to satisfy a compliance obligation. That is, they are not subject to the vintage restrictions that are applied to allowances. This is necessary to implement the price ceiling requirements of AB 398.

Summary of New Section 95915(h)(1)-(2).
New section 95915(h)(1)-(2) specifies the procedure for issuance of price ceiling units, as needed. Subparagraph (1) specifies the Executive Officer will issue these as needed, and that upon issuance, they are eligible for purchase at the price ceiling sales pursuant to section 95915(f). Subparagraph (2) specifies that moneys generated from the sale of these units will be expended to achieve real reductions.

Rationale for New Section 95915(h)(1)-(2).
The new section is necessary to establish the procedures for issuing price ceiling units, and to ensure the requirement of AB 398 with respect to expenditures of moneys to achieve reductions is followed. Although price ceiling units, if they were to become necessary, would not be eligible for use until surrender obligations are due for the 2021 data year (e.g., meaning in 2022), the new section is necessary to provide clarity in how these units will be used. AB 398 specifies that moneys generated from the sale of metric tons (i.e., price ceiling units) be used to achieve emissions reductions on at least a metric ton for metric ton basis that are real, permanent, quantifiable, verifiable, enforceable by the state board and in addition to any greenhouse gas emission

reduction otherwise required by law or regulation and any other greenhouse gas emission reduction that otherwise would occur.

Subarticle 11: Trading and Banking

§ 95920. Trading.

Summary of Section 95920(d)(2)(G).
Section 95920(d)(2)(G) is modified to add references to sections 95871(d), (e), and (f).

Rationale for Section 95920(d)(2)(G).
This change is needed to accommodate allowances allocated post-2020, which are addressed in the added sections.

Summary of Section 95920(h).
Existing section 95920(h) currently defines the allowance budget used to calculate the holding limit to include the annual allowance budgets for jurisdictions with which California has linked its Cap-and-Trade Program.

New text is added that defines the allowance budget used to calculate the holding limit to include the annual allowance budgets for jurisdictions with which California has linked only if the linked programs continue to operate as approved pursuant to Subarticle 12. For instance, the calculation would not include the annual allowance budgets of linked programs that have taken an official act to revoke, repeal, or indefinitely suspend their ETS programs. The calculation would also not include the annual allowance budgets of linked programs in the event that the Executive Officer has acted to prohibit the transfer to or from entities registered into that program and entities registered in California.

New text is added that requires CARB to provide written notification to all California registered entities when a change to the holding limit is needed. CARB staff understands the need to ensure certainty and stability in the market, including in assessing holding limits. The changes proposed in this section are intended to ensure that the market operates in a manner that is protective of the environmental stringency of the Program, while ensuring a careful approach to what is expected to be very limited circumstances in which the Executive Officer would need to take specified actions.

Rationale for Section 95920(h).
The change is needed so that the holding limit applied to the linked market appropriately reflects the combined size of the annual allowance budgets of the programs that remain linked. If one jurisdiction ceases to operate its program, and CARB were to retain its annual allowance budget in the holding limit calculation, then the holding limit would be proportionately larger in the resulting market than when the linked jurisdictions all continued to operate their programs.

The holding limit is based on the number of valid allowances in the linked market. The holding limit increases each time a new jurisdiction joins the linked market. If it did not

increase, then each time a new jurisdiction linked the holding limit would become progressively more stringent as the holding limit became a smaller proportion of the combined allowance budgets. If one program ceases to operate, the holding limit must be reduced by the amount of the departing jurisdictions allowance budget. If it does not, then it would become progressively less stringent as a jurisdiction departs because it would be a larger proportion of the combined allowance budgets.

The additional text is also needed to define the conditions under which a recalculation of the holding limit would be necessary. These conditions include when a linked jurisdiction has taken an official act to revoke, repeal, or suspend its ETS program, that would make joint operation of the linked programs impossible. The text provides additional clarity for the Executive Officer to modify the holding limit when the other jurisdiction has taken official steps to delink, instead of having to wait for the delinking to have been accomplished. In addition, if the Executive Officer acts to prohibit the transfer of compliance instruments between California entities and entities in a linked GHG ETS, then the allowance budget associated with the linked program would be removed from the holding limit calculation. As noted above, CARB staff understands the need to ensure certainty and stability in the market, including in assessing holding limits. The changes proposed in this section are intended to ensure that the market operates in a manner that is protective of the environmental stringency of the Program, while ensuring a careful approach to what is expected to be very limited circumstances in which the Executive Officer would need to take specified actions. This is why the new text requiring written notification to registered entities is needed to provide all market participants with information on changes to the holding limit, as these changes could affect compliance strategies, market positions and market prices.

§ 95921. Conduct of Trade.

Summary of Section 95921(g).
Section 95921(g) is modified to clarify the Executive Officer's authority to impose restrictions on the tracking system in order to protect the environmental stringency of the Program.

Rationale for Section 95921(g).
The change is needed to more fully clarify that the Executive Officer may impose restrictions on the accounts of registered entities that violate any provision of the Cap-and-Trade Regulation. The change authorizes the Executive Officer to impose such account restrictions as are needed to protect the Program's stringency in cases that need not involve violations by individual entities. This authority could, for example, be used to prevent the sale of instruments that are not considered valid, when the entity holding them is not in violation.

Subarticle 12: Linkage to External Greenhouse Gas Emissions Trading Systems

§ 95942. Interchange of Compliance Instruments with Linked External Greenhouse Gas Emissions Trading Systems.

Summary of New Section 95942(i).
New section 95942(i) is added to clarify the Executive Officer's ability to end an approved linkage if a linked jurisdiction has taken an official act to revoke, repeal, or indefinitely suspend its ETS program or one of the linkage findings made pursuant to SB 1018 is no longer valid. In such occurrences, the text clarifies that the Executive Officer may limit transfers between entities, modify auction notices, and modify holding limits.

Rationale for New Section 95942(i).
The change is needed because the actions of a linked jurisdiction could quickly undermine the environmental stringency of the Program if the compliance instruments it issues become invalid. Since CITSS does not display the jurisdiction of origin for compliance instruments, California registered entities cannot exercise due diligence in evaluating the provenance of the instruments they acquire. Only the Executive Officer, through CITSS, is in a position to identify compliance instruments and prevent damage to the environmental stringency of the Program and financial losses to California market participants. This new section is necessary to clarify how the Executive Officer may exercise existing authority to protect the Program.

Summary of New Section 95942(i)(1).
The new section requires the Executive Officer to publicly describe the actions taken and provide an explanation of why they were necessary.

Rationale for New Section 95942(i)(1).
The new text is needed to require the Executive Officer to provide essential market information to market participants in a timely manner. It is also needed to explain to the public the threats to the Program.

Summary of New Section 95942(i)(2)(A)-(D).
The new section lists the information the Executive Officer must publish within 24 hours of taking actions to suspend, revoke or repeal an approved linkage. These include a contact name for questions about the action, duration of the action if it is known, details on existing compliance instruments already in entity accounts, and any other relevant information.

Rationale for New Section 95942(i)(2)(A)-(D).
The new text is needed so that the Executive Officer will provide timely information needed by market participants to understand the effects of the actions on their compliance plans.

§ 95943. Linked External GHG ETS or External GHG Program.

Summary of Section 95943(a)(2).
Section 95943(a)(2) is modified to clarify the time during which linkage with Ontario is effective. The proposed change provides that compliance instruments issued by the Government of Ontario that are held in the accounts of California or other approved external GHG ETS (e.g., Québec) entities as of June 15, 2018 remain valid for compliance and trading purposes. The text ends the linkage with Ontario on June 15, 2018.

Rationale for Section 95943(a)(2).
The change is needed to clarify that compliance instruments held by California entities as of June 15, 2018 remain valid for compliance and transfer, despite the end of linkage with Ontario. A modification to CITSS on June 15, 2018 effectively prevented the transfer of compliance instruments between Ontario on one side and California and Québec on the other. This prevents the further transfer of compliance instruments from Ontario. However, staff needed to address the Ontario instruments that remained in California accounts. The change is also needed to specify when linkage with Ontario ended – namely, on June 15, 2018.

Subarticle 13: ARB Offset Credits and Registry Offset Credits

§ 95973. Requirements for Offset Projects Using ARB Compliance Offset Protocols.

Summary of Section 95973(a)(2)(D).
Section 95973(a)(2)(D) allows an Offset Project Operator (OPO) to update from an earlier version of a Compliance Offset Protocol to the most current version. The modification allows the OPO increased flexibility in how to transition. The modification also specifies how the transition may be made, consistent with current practice.

Rationale for Section 95973(a)(2)(D).
The Regulation previously required that a transition must occur with the initial submission of an Offset Project Data Report (OPDR) submitted to an Offset Project Registry (OPR) for the applicable reporting period. This requirement was to alleviate possible confusion during offset verification services about project monitoring and reporting requirements if an OPO was allowed to waiver about which protocol version is applicable. The modification is necessary to allow the OPO some flexibility in case it does not indicate the intended version with the initial submission but still provides certainty during offset verification services once the site visit has occurred about which protocol version is applicable. In extreme cases, the OPO may still be able to change the protocol version after the site visit but only if the OPO and verification body agree on re-conducting the site visit. The modifications also specify that a project may not transition for a reporting period receiving a less-intensive verification. For less-intensive verifications, the verification body may use its sampling plan from the last full verification, and this would not be appropriate given the potential new protocol

requirements as a result of transitioning protocol versions. The modifications are necessary to clarify that a transition is not considered complete until CARB has approved a positive or qualified positive Offset Verification Statement (OVS) for the new reporting period. Overall, the modification is necessary to allow the OPO increased flexibility in how to transition from an earlier version of a Compliance Offset Protocol to the current version of the Protocol.

Summary of Section 95973(b)(1).
Section 95973(b)(1) is modified to add references to the Compliance Offset Protocol U.S. Forest Projects.

Rationale for Section 95973(b)(1).
This change is necessary because of revisions to section 95973(b)(1)(E), which now allows offset projects using the Compliance Offset Projects U.S. Forest Protocol to remove from reporting period the dates the offset projects were not in regulatory compliance from the reporting period. Previously an offset project was prohibited from removing such dates from its reporting period, and the entire reporting period was considered out of regulatory compliance.

Summary of Section 95973(b)(1)(B).
Section 95973(b)(1)(B) is modified to give CARB discretion to identify the end date for when a project was out of regulatory compliance.

Rationale for Section 95973(b)(1)(B).
This change is necessary for instances when the relevant regulatory agency is unable or unwilling to provide the information required to identify the end date of regulatory noncompliance. When there is clear evidence of the end date, to CARB's satisfaction, the project will be eligible to receive CARB offset credits for the remainder of the reporting period.

Summary of Section 95973(b)(1)(E).
Section 95973(b)(1)(E) is modified to move the methods for removing the days the offset project is out of regulatory compliance from the Reporting period, which are currently in this section, to their own separate sections.

Rationale for Section 95973(b)(1)(E).
This change is necessary to improve clarity of the provision by more explicitly listing the mechanisms under which a project must remove days from the reporting period.

Summary of New Section 95973(b)(1)(E)1.
A new heading (95973(b)(1)(E)1.) was added to the section to separate the existing method for removing days from the Reporting Period for Livestock and Mine Methane Capture offset projects that are out of regulatory compliance from other protocol types, which are now included in sections 95973(b)(1)(E)2. and 3. This text was all previously contained in section 95973(b)(1)(E). Additional clarification of the regulatory

conformance and invalidations provisions can be found in new text in Appendix E of the proposed Regulation order.

Rationale for New Section 95973(b)(1)(E)1.
This change is necessary to improve clarity in the provision by more explicitly listing the mechanisms under which a project must remove days from the reporting period.

Summary of New Section 95973(b)(1)(E)2.
A new heading (95973(b)(1)(E)2.) was added to the section to separate the existing method for removing destruction events from the Reporting Period for Ozone Depleting Substance (ODS) offset projects that are out of regulatory compliance from other protocol types, which are no included in sections 95973(b)(1)(E)1. and 3. This text was all previously contained in section 95973(b)(1)(E). Additional clarification of the regulatory conformance and invalidations provisions can be found in new text in Appendix E of the proposed Regulation order.

Rationale for New Section 95973(b)(1)(E)2.
This change is necessary to improve clarity in the provision by more explicitly listing the mechanisms under which a project must remove days from the reporting period.

Summary of New Section 95973(b)(1)(E)3.
New section 95973(b)(1)(E)3. identifies a method for projects using the Compliance Offset Protocol U.S. Forest Projects to remove dates the project is out of regulatory compliance from the reporting period. Additional clarification of the regulatory conformance and invalidations provisions can be found in new text in Appendix E of the proposed Regulation order.

Rationale for New Section 95973(b)(1)(E)3.
This new section is necessary to align projects using the Compliance Offset Protocol U.S. Forest Projects the same ability to remove dates from the reporting period that is allowed for projects using the Compliance Offset Protocols for Ozone Depleting Substances, Livestock, and Mine Methane Capture. Projects are only allowed to receive ARB offset credits for the portion of the reporting period that the project is in regulatory compliance.

Summary of Section 95973(b)(2).
Section 95973(b)(2) is modified to remove references to the Compliance Offset Protocol U.S. Forest Projects.

Rationale for Section 95973(b)(2).
This change is necessary to allow U.S. Forest projects to use the method described in section 95973(b)(1)(E).

Summary of New Section 95973(e).
New section 95973(e) re-states and clarifies the requirement previously found in section 95974(2)(B).

Rationale for New Section 95973(e).
The requirement previously in section 95974(2)(B) is moved to section 95973(e) to clarify that this requirement applies regardless of whether there is an Authorized Project Designee (APD) for the applicable offset project. The modification also clarifies that authorized individuals are the primary account representative and alternate account representatives.

§ 95974. Authorized Project Designee.

Summary of Section 95974(a)(2)(B).
The final sentence of section 95974(a)(2)(B) is removed from this section.

Rationale for Section 95974(a)(2)(B).
The requirement of the final sentence in section 95974(a)(2)(B) is moved to section 95973(e) to clarify that this requirement applies regardless of whether there is an Authorized Project Designee (APD) for the applicable offset project.

§ 95976. Monitoring, Reporting, and Record Retention Requirements for Offset Projects.

Summary of Section 95976(d)(7).
Section 95976(d)(7) is modified to further specify that the Primary Account Representative or the Alternate Account Representative of the OPO must make the attestation, and not the Authorized Project Designee.

Rationale for Section 95976(d)(7).
The regulation has required that only the OPO's primary or alternate account representatives may make an attestation on behalf of the OPO. (See the summary and rationale on section 95973(e) and section 95974(a)(2)(B) immediately above.) Since the phrase "or Authorized Project Designee" was potentially confusing whether an APD's primary or alternate account representative could also make an attestation on behalf of the OPO, the phrase is removed. Additional text is added specifying which representatives of the OPO may make an attestation. The regulation has allowed an APD to submit the OPO's attestation as part of the OPDR. This regulatory amendment does not affect the APD's ability to continue to submit the OPO's attestation.

Summary of Section 95976(d)(8).
Section 95976(d)(8) is modified with two clarifications: first, regarding which OPDR is to be submitted within the specified time frame and, second, about required elements for a submitted OPDR.

Rationale for Section 95976(d)(8).
Section 95976(d)(8) requires that an OPDR must be submitted within four months of the conclusion of each reporting period. OPDRs are routinely revised during offset verification services. The revisions in the first sentence clarify that revised OPDRs are

not required to be submitted within four months. The addition of the second sentence clarifies the requirements elsewhere in the regulation that any valid submission of an OPDR must include the required attestation and a signature by one of the OPO's account representatives.

Summary of Section 95976(d)(9).
Section 95976(d)(9) is modified with two clarifications. First, the "applicable reporting deadline" is clarified as the "reporting deadline in section 95976(d)(8)." Second, the regulation clarifies the implication for registry offset credits in addition to ARB offset credits. This latter clarification does not prohibit an approved Offset Project Registry from issuing its own offset credits (e.g., Emission Reduction Tonnes, Climate Reserve Tonnes, or Verified Carbon Units) for projects which miss ARB's four-month reporting deadline.

Rationale for Section 95976(d)(9).
The modified wording in the first sentence offers greater clarity without any change in regulatory meaning. There is also a reporting requirement earlier in section 95976(d) that an OPO must submit an OPDR be submitted within 30 months of listing. The revised provision clarifies that this reporting deadline is not applicable to section 95976(d)(9). In most instances throughout the regulation, the criteria for registry offset credits and ARB offset credits are the same, although they represent different steps in the project verification process. The revision clarifies that missing the four-month reporting deadline means neither registry offset credits nor ARB offset credits may be issued for the applicable reporting period.

Summary of Section 95976(d)(10).
Section 95976(d)(10) is revised to add a requirement that OPDRs include both the protocol version under which an offset project is listed and under which it is reporting. This requirement is applicable only for projects for which CARB has adopted multiple versions of an offset protocol.

Rationale for Section 95976(d)(10).
This revision describes how most OPDRs are already submitted. Given the requirement in section 95973(a)(2)(D) about transitioning to the most recent version of a compliance offset protocol, the revision is necessary to specify that the protocol version is required reporting information.

Summary of New Section 95976(g).
New section 95976(g) provides a general procedure for approving alternate monitoring and measurements methods.

Rationale for New Section 95976(g).
When offset protocols are written and adopted, they often describe and envision current monitoring and measurement methods. As technology advances, new monitoring and

measurement methods are developed and refined. The process to update protocols may be lengthy. This new section provides a procedure for OPOs and APDs to have a new monitoring or measurements method approved by ARB on an interim basis. Moreover, allowing new monitoring and measurements methods may also provide experience in the field that will inform better inform ARB when it occasionally considers protocol updates.

Summary of New Section 95976(g)(1).
New section 95976(g)(1) requires an OPO or APD to submit a written request prior to the start of a reporting period for which it is seeking to use an alternate monitoring and measurement method.

Rationale for New Section 95976(g)(1).
New section 95976(g)(1) establishes that requesting an alternate monitoring and measurement method may be done only through a formal process. Requiring the request to be written establishes that formality. During verification, the written request will provide documentation upon which offset verifiers may rely. The OPO or APD is required to seek approval prior to the start of the applicable reporting period. This reduces the possibility of any ambiguity about whether the alternate method may be used after the reporting period has already begun. Requiring the request to be submitted at least 30 days before the reporting period helps to ensure that ARB will have enough time to consider the request prior to making a determination about whether to approve the request.

Summary of New Section 95976(g)(1)(A).
New section 95976(g)(1)(A) requires the written request to include the offset project name and its identification numbers.

Rationale for New Section 95976(g)(1)(A).
Some OPOs and APDs manage multiple offset projects. Requiring the project name for each request provides clarity for which projects a request is being submitted.

Summary of New Section 95976(g)(1)(B).
New section 95976(g)(1)(B) requires the written request to include the reporting period dates for which a request is being submitted.

Rationale for New Section 95976(g)(1)(B).
Most offset projects have multiple reporting periods. Requiring the reporting period start and end dates provides clarity about the request and helps identify that the request is submitted in a timely fashion.

Summary of New Section 95976(g)(1)(C).
New section 95976(g)(1)(C) requires the written request to include a detailed description of the alternate method for which a request is being submitted.

Rationale for New Section 95976(g)(1)(C).
For CARB to consider the request, the OPO or APD must provide sufficient detail about the alternate method for CARB to be able to evaluate the request and reach a determination.

Summary of New Section 95976(g)(1)(C)1.
New section 95976(g)(1)(C)1. requires a detailed description of the purpose for the alternate method.

Rationale for New Section 95976(g)(1)(C)1.
In order for CARB to evaluate the appropriateness of the alternative monitoring and measurement method, CARB must understand the reason that the alternative monitoring and measurement method is being requested.

Summary of New Section 95976(g)(1)(C)2.
New section 95976(g)(1)(C)2. requires the detailed description of the alternate monitoring and measurement method to include a discussion of the accuracy of the alternate monitoring and measurement method.

Rationale for New Section 95976(g)(1)(C)2.
For ARB to consider whether to approve the alternate monitoring and measurement method, CARB must be provided information about the accuracy of the alternate monitoring and measurement method. Therefore, this section specifies that a discussion of accuracy must be part of any written request for use of an alternate monitoring and measurement method. Peer-reviewed literature would be a good example of information that would be cited in such a discussion.

Summary of New Section 95976(g)(1)(C)3.
New section 95976(g)(1)(C)3. requires the detailed description of the alternate monitoring and measurement method to include a detailed analysis identifying how the alternate monitoring and measurement method is in conformance with the relevant requirements of the Compliance Offset Protocol.

Rationale for New Section 95976(g)(1)(C)3.
For CARB to consider whether to approve the alternate monitoring and measurement method, CARB must be provided a detailed analysis about how the monitoring and measurement method conforms with the applicable Compliance Offset Protocol. This ensures that the alternate monitoring and measurement method is consistent with protocol requirements, and thus the offset project continues to meet the same rigorous protocol requirements.

Summary of New Section 95976(g)(2).
New section 95976(g)(2) specifies that approval for an alternate monitoring and measurement method is only for a single reporting period.

Rationale for New Section 95976(g)(2).
Specifying that an approval for an alternate monitoring and measurement method covers only one reporting period allows CARB to continue to monitor how alternate monitoring and measurement methods are used. If CARB finds over time that implementation of an alternate method is not as accurate or verifiable as it determined prior to the alternate monitoring and measurement method being approved, it would no longer approve the alternate monitoring and measurement method for subsequent reporting periods or other offset projects. OPOs and APDs would revert to using a monitoring and measurement method commonly employed when the Compliance Offset Protocol was adopted.

Summary of New Section 95976(g)(3).
New section 95976(g)(3) requires CARB to determine the accuracy and verifiability of an alternate monitoring and measurement method.

Rationale for New Section 95976(g)(3).
This section is necessary to ensure an offset project using an alternate monitoring and measurement method is in compliance with the relevant Compliance Offset Protocol. First, CARB must determine that the alternate monitoring and measurement method has at least comparable accuracy to monitoring and measurement methods which would otherwise be utilized. Second, CARB must determine the monitoring and measurement method is verifiable to a reasonable level of assurance, which is the standard specified in section 95977.1(b)(3)(N) and elsewhere in the regulation.

Summary of New Section 95976(g)(4).
New section 95976(g)(4) specifies that data collected following an approved alternate monitoring and measurement method is considered to be in compliance with the relevant Compliance Offset Protocol.

Rationale for New Section 95976(g)(4).
Compliance with the relevant Compliance Offset Protocol is a requirement for all offset projects to receive ARB offset credits. New section 95976(g)(4) clarifies that compliance with an approved monitoring and measurement alternate method is part of conformance with the relevant Compliance Offset Protocol.

Summary of New Section 95976(g)(5).
New section 95976(g)(5) allows CARB to request additional documentation and requires CARB to provide a written approval or disapproval of the request to use an alternate monitoring and measurement method within 30 days.

Rationale for New Section 95976(g)(5).
CARB must have adequate information to ensure that an alternate monitoring and measurement method is sufficiently accurate. If the description provided pursuant to section 95976(g)(1) is not sufficiently detailed to inform CARB's determination, CARB may request additional documentation. This section specifies CARB's authority to request the additional documentation. This section also specifies the timeline in which

CARB must make a determination. The 30-day requirement is consistent with the 30-day requirement in section 95976(g)(1). If an OPO or APD provides enough information such that CARB does not need to request any additional documentation, then CARB will provide the OPO or APD with a written determination prior to the start of the reporting period. Thus, the OPO or APD will know from the start of the reporting period how to monitor its GHG sources, sinks, and reservoirs. Section 95976(g)(1) required a written request, and section 95976(g)(5) similarly requires a written response approving or disapproving the request. The written response will provide documentation upon which offset verifiers may rely.

Summary of New Section 95976(g)(6).
New section 95976(g)(6) specifies that an alternate monitoring and measurement method can be submitted only for a reporting period receiving a full verification.

Rationale for New Section 95976(g)(6).
Requiring a full verification for any reporting period covered by an alternate monitoring and measurement method means that the verification team, including the offset project specialist, is required to visit the project site and evaluate the use of the alternate monitoring and measurement method at the project site. This means that project may not request the use of a new alternative monitoring and measurement method when a less-intensive verification, or no verification is performed. This does not mean that a project using an alternative monitoring and measurement method must have a full verification done every year. This new section is necessary to ensure that a reporting period covered by an alternate monitoring and measurement method is subject to full verification.

Summary of New Section 95976(g)(7).
New section 95976(g)(7) provides that CARB may rescind its approval of an alternate monitoring and measurement method.

Rationale for New Section 95976(g)(7).
Approval of an alternate monitoring and measurement method is based on how that method is expected to perform when implemented. If CARB discovers and determines that the method's actual performance is either not as accurate or not as verifiable as expected, then the alternate monitoring and measurement method would no longer meet the requirements for approving an alternate monitoring and measurement method. This subsection specifies that ARB may rescind the approval since the method is no longer meeting the required criteria.

Summary of New Section 95976(g)(8).
New section 95976(g)(8) defines what is meant by "common usage" for section 95976(g).

Rationale for New Section 95976(g)(8).
Section 95976(g) specifies that an offset project may use an alternate monitoring and measurement method only if the method was not in common usage at the time CARB

adopted the Compliance Offset Protocol under which the offset project is reporting. This subsection provides a definition for common usage. Any method which was already in use by a similar offset protocol within the United States at the time CARB adopted its Compliance Offset Protocol is deemed to be commonly used. Thus, it is reasonable to presume that CARB was aware of this methodology when adopting its compliance protocol and had the opportunity to specifically exclude its usage.

§ 95977.1. Requirements for Offset Verification Services.

Summary of Section 95977.1(b)(1).
Changes to section 95977.1(b)(1) modify the minimum required time between the submittal of a Notice of Offset Verification Services (NOVS) the verification site visit. For most verifications, which are not audited by either CARB or an OPR, the minimum required time is reduced from 30 days to 15 days. For verification which are audited by CARB or an OPR, the minimum time frame may be increased to 40 days.

Rationale for Section 95977.1(b)(1).
The Regulation has provided a minimum time between the submission of an NOVS and the start of offset verification services and/or verification site visit. There are at least a couple reasons for the minimum time requirement, including that a well-ordered verification requires time planning and even some data sampling prior to the site visit. Also, when CARB or an OPR wishes to audit a verification, time is required for travel arrangements for the site visit. In particular, CARB as a state agency has a process which generally requires at least 30 days for out-of-state travel approval. Since the regulation was first adopted, the minimum time requirement after submitting an NOVS has changed. The most recent change shifted the requirement from the start of offset verification services to the verification site visit. To allow CARB time to both decide which verifications to audit and secure travel approval, the minimum time is increased from 30 days to 40 calendar days. The change affords OPRs the same time as CARB when auditing a verification. Verification bodies (VB), though, are offered increased flexibility to schedule site visits just 15 days instead of 30 days after submitting an NOVS for the majority of projects which are not audited. This should reduce any work associated for the VB and CARB in securing written approval from CARB for an early site visit. The revised language removes the possibility for being approved for a site visit less than 15 days after submitting an NOVS. This should encourage VBs to plan sufficiently ahead for their site visits.

Summary of Section 95977.1(b)(1)(A).
Revised language in section 95977.1(b)(1)(A) clarifies several required elements in the NOVS and removed the requirement for the crediting period end date.

Rationale for Section 95977.1(b)(1)(A).
An NOVS requires clear identification of which reporting period(s) are to receive offset verification services. The revised language clarifies that the NOVS includes the project names and its identification numbers, specifies whether one or more reporting periods are to be verified, specifies the reporting period start and dates for the reporting

period(s) to be verified, and specifies the crediting period start date. Requiring the protocol version assists to establish that the verification body properly understands the regulatory standard against which an OPDR will be verified. Requiring the crediting period start date helps to identify whether the verification includes the first reporting period of the crediting period. Depending upon the project type, verifications of initial reporting periods often require more review of project eligibility than subsequent reporting periods. The crediting period end date is no longer required because it is not necessary for a NOVS. Moreover, changes to the definition of crediting period that allow the final reporting period for some projects to be a time period longer than 12 months means the crediting period end date may not yet be determined and not known until some future time.

Summary of Section 95977.1(b)(1)(D)4.
Revised language in section 95977.1(b)(1)(D)4. clarifies a required element in the NOVS.

Rationale for Section 95977.1(b)(1)(D)4.
The intent in section 95977.1(b)(1)(D)4. is for the VB to indicate when it anticipates submitting an Offset Verification Statement (OVS), which is usually required to be submitted within eleven months of the end of the reporting period. (There are some exceptions for deferred verifications and for first reporting periods under the third version of the U.S. Forest compliance offset protocol.) Since the regulation was first adopted, previous amendments have clarified that offset verification services are completed with the issuance of ARB offset credits. The revised language is consistent with the original intent of this section and removes a potentially confusing reference to "completion."

Summary of Section 95977.1(b)(2).
Revised language in section 95977.1(b)(2) aligns regulatory requirements for submission of a revised NOVS with requirements in in section 95977.1(b)(1) regarding the first submission of an NOVS.

Rationale for Section 95977.1(b)(2).
Previously adopted regulatory amendments in section 95977.1(b)(1) changed the minimum time until when a VB could start offset verification services to when it could conduct a site visit. The new regulatory amendments in section 95977.1(b)(2) similarly change the requirement from the start of offset verification services to the site visit. The regulation previously had a requirement that could delay the start of offset verification services if the VB submitted a revised NOVS immediately instead of perhaps delaying until after the start of offset verification services to submit the revised NOVS. This distinction is removed. New language is added for when CARB or an OPR is auditing a verification requiring the VB to notify the auditing entity when it plans to change the start of offset verification services or the site visit. This change is to allow the auditing entity sufficient time to participate in the kick-off or planning meeting which typically begins offset verification services and sufficient time to make travel arrangements for any revised site visit.

Summary of Section 95977.1(b)(3)(M).
Revisions in section 95977.1(b)(2) allow *de minimis* errors (e.g., less than three percent) to not be corrected.

Rationale for Section 95977.1(b)(3)(M).
These changes are necessary to avoid a significant amount of work to change relatively small errors in the Offset Project Data Report. The three percent threshold was selected because this is a *de minimis* threshold used in MRR section 95103(i). This is not an opportunity to intentionally over-report by three percent. GHG emissions reductions and removal enhancements must only be used for actual errors and not as a mechanism to artificially inflate GHG emission reduction or removal enhancements. Even though this provision will not require projects to correct small errors, this provision does not indemnify the project against these errors, and the project may still be subject to enforcement action.

§ 95979. Conflict of Interest Requirements for Verification Bodies and Offset Verifiers for Verification of Offset Project Data Reports.

Summary of Section 95979(b).
Section 95979(b) is modified to add a new sentence defining non-offset verification services for the purpose of this section.

Rationale for Section 95979(b).
In section 95979, the regulation generally provides for how VBs must evaluate potential conflict of interest (COI) against OPOs, APDs, and their technical consultants. The regulation generally recognizes two kinds of professional services between VBs and OPO/APDs: offset verification services and non-offset verification services, i.e., generally "consulting." Because the regulation specifically defines offset verification services in terms of offset projects under this regulation, the revisions in this section provide the clarity that independent third-party verifications and certifications offered in other programs may also be considered as verification work instead of as consulting.

Summary of Section 95979(b)(2)(A).
Additional language is added in section 95979(b)(2)(A) to clarify how developing a forest management plan or timber harvest plan affects potential conflict of interest.

Rationale for Section 95979(b)(2)(A).
Existing language in section 95979(b)(2)(A) is improved to describe how developing a forest management or a timber harvest plan is similar to data management of air emissions inventories for the purpose of COI. To ensure against even the perception of COI between VBs and OPO/APDs, it is critical that VBs not also be engaged in consulting work for those for whom they are also offering independent, third-party offset verification services.

Summary of Section 95979(b)(2)(J).
Section 95979(b)(2)(J) clarifies that potential COI is created by developing safety policy instead of merely implementing it.

Rationale for Section 95979(b)(2)(J).
Current regulatory language suggests, for example, that a forest cruiser could not become a member of an offset verification team if they have identified any trees for the OPO or APD as being a safety hazard and have marked them for removal. Such implementation activities should not be considered a high COI for potential offset verification activities and the section has been modified accordingly.

Summary of Section 95979(f)(2).
Section 95979(f)(2) adds a new requirement that an OPR notify CARB when it has approved a VB's self-evaluation of COI with 15 calendar days of approving a COI self-evaluation.

Rationale for Section 95979(f)(2).
VBs are prohibited from beginning offset verification services until after CARB or an OPR has approved a VB's self-evaluation of COI. Since OPRs do not currently inform CARB about when COIs are approved, it is difficult for CARB to evaluate whether VBs are conforming with this requirement. Requiring OPRs to inform CARB about their approval of COI evaluations will provide CARB more information about how entities are conforming with regulatory requirements. It is necessary for the OPR to notify CARB within 15 calendar days of approving a COI self-evaluation so that CARB has timely knowledge of the OPR's COI status.

Summary of New Section 95979(f)(3).
New section 95979(f)(3) adds a requirement specifying when an OPR must obtain re-approval of an updated COI self-evaluation. The OPR must notify CARB with 15 calendar days of approving a COI self-evaluation.

Rationale for New Section 95979(f)(3).
During the course of offset verification services, particularly for U.S. Forest projects with larger verification teams, COI self-evaluation are frequently updated. Sometimes additional verification team members are added. Previously, the regulation has not described when a COI self-evaluation would require re-approval. The addition of section 95979(f)(3) requires CARB or an OPR to approve an updated COI self-evaluation before any new team member participates in offset verification services. It is necessary for the OPR to notify CARB within 15 calendar days of approving a COI self-evaluation so that CARB has timely knowledge of the OPR's COI status.

§ 95981. Issuance of ARB Offset Credits.

Summary of Section 95981(b).
Section 95981(b) no longer requires OPOs and APDs to submit documentation commonly known as Request for Issuance (RFI) attachments. Content from section 95981(b)(5) is moved to section 95981(b).

Rationale for Section 95981(b).
CARB is shifting some regulatory requirements from the OPO/APDs to the OPR. CARB staff believes this will lead to a more efficient system. The text deleted from this section is no longer required given the shifted requirement, and content from section 95981(b)(5) is moved to this section due to the deletion of sections in between.

Summary of Section 95981(b)(1) [deleted].
Section 95981(b)(1) is deleted and no longer requires OPOs and APDs to submit required attestations as part of an RFI.

Rationale for Section 95981(b)(1) [deleted].
CARB is shifting some regulatory requirements from the OPO/APDs to the OPR. CARB staff believes this will lead to a more efficient system. This section is no longer required given the shifted requirement. The text for OPR's new regulatory requirement is provided in section 95987(f)(1).

Summary of Section 95981(b)(2) [deleted].
Section 95981(b)(2) is deleted and no longer requires OPOs and APDs to submit listing information as part of an RFI.

Rationale for Section 95981(b)(2) [deleted].
Because offset project listings are publicly available information, CARB is dropping the requirement to submit this documentation as part of an RFI. The requirement to submit listing information is being dropped and not merely shifted to OPRs.

Summary of Section 95981(b)(3) [deleted].
Section 95981(b)(3) is deleted and no longer requires OPOs and APDs to submit original and final OPDRs as part of an RFI.

Rationale for Section 95981(b)(3) [deleted].
CARB is shifting some regulatory requirements from the OPO/APDs to the OPR. CARB staff believes this will lead to a more efficient system. The deleted section is no longer required given the shifted requirement. The text for OPR's new regulatory requirement is provided in section 95987(f)(2) and section 95987(l).

Summary of Section 95981(b)(4) [deleted].
Section 95981(b)(4) is deleted and no longer requires OPOs and APDs to submit an OVS as part of an RFI.

Rationale for Section 95981(b)(4) [deleted].
CARB is shifting some regulatory requirements from the OPO/APDs to the OPR. CARB staff believes this will lead to a more efficient system. The deleted section is no longer required given the shifted requirement. The text for OPR's new regulatory requirement is provided in section 95987(f)(3).

Summary of Section 95981(b)(5) [New section 95981(b)].
Text in section 95981(b)(5) becomes part of section 95981(b).

Rationale for Section 95981(b)(5) [New section 95981(b)].
The revision in section 95981(b)(5) is reformatting. With sections 95981(b)(1), 95981(b)(2), 95981(b)(3), and 95981(b)(4) deleted, there are no longer multiple subsections with only section 95981(b)(5) remaining. Thus, the text previously in section 95981(b)(5) becomes the text which concludes section 95981(b).

Summary of Section 95981(b)(5)(C) [New section 95981(b)(1).
This section is renumbered to be new section 95981(b)(1).

Rationale for Section 95981(b)(5)(C) [New section 95981(b)(1).
Section 95981(b)(5)(C) was previously mislabeled as it should have been section 95981(b)(5)(A). With the text previously in section 95981(b)(5) becoming part of section 95981(b), correspondingly the section previously labelled as 95981(b)(5)(C) becomes section 95981(b)(1).

Summary of Section 95981(b)(5)(D) [New section 95981(b)(2)].
This section is renumbered to be new section 95981(b)(2).

Rationale for Section 95981(b)(5)(D) [New section 95981(b)(2)].
Section 95981(b)(5)(D) was previously mislabeled as it should have been section 95981(b)(5)(B). With the text previously in section 95981(b)(5) becoming part of section 95981(b), correspondingly the section previously labelled as 95981(b)(5)(D) becomes section 95981(b)(2).

Summary of Section 95981(d).
Section 95981(d) is amended to reflect the role of OPOs in signing attestations. The phrase "or Authorized Project Designee" is removed from section 95981(d).

Rationale for Section 95981(d).
The regulation has required that only the OPO's primary or alternate account representatives may make an attestation on behalf of the OPO. (See the summary and rationale on section 95973(e) and section 95974(a)(2)(B), as well as section 95976(d)(7).) Since the phrase "or Authorized Project Designee" was potentially confusing whether an APD's primary or alternate account representative also could make an attestation on behalf of the OPO, the phrase is removed. Additional text is added specifying which representatives of the OPO may make an attestation. The regulation has allowed an APD to submit the OPO's attestation as part of the OPDR.

This regulatory amendment does not affect the APD's ability to continue to submit the OPO's attestation.

§ 95981.1 Process for Issuance of ARB Offset Credits.

Summary of Section 95981.1(c).
Changes to section 95981.1(c) modify how CARB notifies an OPO or APD of ARB offset credit issuance.

Rationale for Section 95981.1(c).
CARB practice has been that it does not notify an OPO or APD about ARB offset credit issuance until after credits are issued. The revised language in section 95981.1(c) clarifies that CARB will notify the OPO or APD accordingly. Revisions also remove the possibility that CARB would notify a third party receiving ARB offset credits instead of the OPO or APD. The revised language also changes the notification timeframe from 15 calendar days to five working days so that OPOs and APDs are timely notified.

Summary of Section 95981.1(d)(1).
The reference to section 95981(b)(5)(B) is modified to 95981(b).

Rationale for Section 95981.1(d)(1).
The change is needed to reflect the reorganization of section 95981.

Summary of Section 95981.1(e).
Changes to section 95981.1(e) modify the timeframe within which ROCs must be cancelled and specifies the timeframe applicable to the OPR providing proof to CARB that the ROCs have been cancelled.

Rationale for Section 95981.1(e).
CARB has found that some OPOs and APDs experience some issues in cancelling ROCs. Revisions in 95981.1(e) extend the timeline for cancelling ROCs, specify the timeframe in which an OPR must provide proof to CARB about the ROC cancellation, and provide for a consequence if the OPO or APD does to meet its requirement to cancel ROCs. Given the strength of the consequence, i.e., no ARB offset credits, a reasonable timeline of one year has been provided to meet the deadline for ROC cancellation. Once cancelled, the OPR must provide proof of cancellation to CARB within five working days, which is a reasonable timeline given that CARB must have current information about whether such ROCs are cancelled.

Summary of Section 95981.1(f).
The changes to section 95981.1(f) clarify that ARB offset credits will not be transferred until after ROC cancellation. The reference to section 95981(b)(5)(B) is modified to 95981(b).

Rationale for Section 95981.1(f).
Two steps required before transferring ARB offset credits are ROC cancellation and CARB notifying the OPO or APD of its intent to issue. Regulatory amendments effective October 1, 2017 changed the order of these two steps such that ROC cancellation happens after the issuance notification. The revision in section 95981.1(f) clarifies that CARB still has 15 working days after the second of these two steps. It further clarifies that ARB offset credits may not be transferred until after ROC cancellation, thus ensuring that there are not two offset credits available to the OPO or APD for the same GHG emission reduction or GHG removal enhancement. The change to the reference is needed to reflect the reorganization of section 95981.

§ 95982. Registration of ARB Offset Credits.

Summary of Section 95982(b).
The reference to section 95981(b)(5)(B) is modified to section 95981(b).

Rationale for Section 95982(b).
The change is needed to reflect the reorganization of section 95981.

§ 95983. Forestry Offset Reversals.

Summary of New Section 95983(e).
New section 95983(e) requires that any obligation for replacing ARB offset credits due to reversal passes to the new Forest Owner or Offset Project Operator when ownership changes.

Rationale for New Section 95983(e).
New section 95983(e) adds similar requirements for Forest Owners and Offset Project Operators as were added for covered entities in the version of the Regulation that went into effect May 30, 2018. This is necessary to clearly state that any obligation for replacing ARB offset credits is not automatically discharged during any type of change of ownership, including bankruptcy.

§ 95984. Ownership and Transferability of ARB Offset Credits.

Summary of Section 95984(a).
The reference to section 95981(b)(5)(B) is modified to section 95981(b).

Rationale for Section 95984(a).
The change is needed to reflect the reorganization of section 95981.

§ 95985. Invalidation of ARB Offset Credits.

Summary of Section 95985(b)(1)(B)2.
The changes to section 95985(b)(1)(B)2. clarify when the invalidation period for ARB offset credits is reduced from eight years to three years.

Rationale for Section 95985(b)(1)(B)2.
CARB staff has understood section 95985(b)(1)(B)2. to provide that an OVS from a different VB must be submitted within three years of when ARB offset credits were issued. The revised wording clarifies this. The revised language refers to the issuance of the ARB offset credits whose invalidation period may be reduced instead of just the last time any ARB offset credits were issued for an offset project.

Summary of Section 95985(c)(2)(A).
Section 95985(c)(2)(A) adds projects using the Compliance Offset Protocol U.S. Forest Projects to this section.

Rationale for Section 95985(c)(2)(A).
This change is necessary to allow U.S. Forest projects subject to invalidation for not being in regulatory compliance during the entire reporting period, to only have the ARB offset credits that resulted from the period of time the project was out of regulatory compliance be subject to invalidation. This change is paired with the changes in section 95973(b)(1)(E)3.

Summary of Section 95985(c)(2)(B).
The change removes the Compliance Offset Protocol U.S. Forest Projects from this section.

Rationale for Section 95985(c)(2)(B).
This change is necessary to allow for the changes in section 95973(c)(2)(A).

Summary of New Section 95985(k).
New section 95985(k) requires that any obligation for replacing ARB offset credits due to invalidation passes to the new Forest Owner or Offset Project Operator when ownership changes.

Rationale for New Section 95985(k).
New section 95985(k) adds similar requirements for Forest Owners and Offset Project Operators as were added for covered entities in the version of the Regulation that went into effect May 30, 2018. This is necessary to clearly state that any obligation for replacing ARB offset credits is not automatically discharged during any type of change of ownership, including bankruptcy.

§ 95987. Offset Project Registry Requirements.

Summary of Section 95987(b)(3).
Section 95987(b)(3) is amended to clarify that once listed by an OPR, a project must continue to be listed by the OPR. For projects that may no longer be "Active," the additional regulatory language provides for two new listing status which may be used to describe some offset projects. The new language also adds two new listing statuses, "Inactive" and "Terminated," to describe projects which are no longer being pursued by an OPO.

Rationale for Section 95987(b)(3).
The revisions are necessary to expand the listing status options and improve the clarity of the provision. The revisions seek to reduce confusion by OPOs and APDs regarding how project listing status may be specified. This improves transparency of the compliance offset program.

Summary of New Section 95987(b)(3)(A).
New section 95987(b)(3)(A) specifies that if an offset project missed the 28-month reporting deadline in section 95976(d) the project may be listed as "Inactive."

Rationale for New Section 95987(b)(3)(A).
This section is necessary to ensure greater clarity in the listing of offset projects. Without these changes it is not possible to easily determine if a listed project is continuing or has elected not to continue. This modification increases transparency in the program. If the reporting deadline is missed, section 95976(d) requires an OPO or APD to submit an updated listing under the most recent version of the applicable Compliance Offset Protocol to remain eligible to be issued ARB offset credits. Until an OPO or APD submits an updated listing, new language in section 95987(b)(3) allows the OPR to update the project listing status to "Inactive."

Summary of New Section 95987(b)(3)(B).
New section 95987(b)(3)(B) specifies that if a offset project has not maintained continuous reporting as required by section 95976(d), the offset project may be listed as "Terminated."

Rationale for New Section 95987(b)(3)(B).
This section is necessary to ensure greater clarity in the listing of offset projects. Without these changes it is not possible to easily determine if a listed project has been terminated. This increases transparency in the program. Section 95976(d) specifies that when continuous reporting does not occur, the offset project will be considered terminated and not eligible for ARB offset credits.

Summary of New Section 95987(b)(3)(C).
New section 95987(b)(3)(C) specifies that an ODS project that does not meet the 11-month OVS deadline may be listed as "Inactive."

Rationale for New Section 95987(b)(3)(C).
This section is necessary to ensure greater clarity in the listing of offset projects. Without these changes it is not possible to easily determine if a listed offset project is continuing or inactive. This increases transparency in the program. Section 95977(d) requires an OVS to be submitted within 11 months of the end of the reporting period, or no ARB offset credits may be issued. ODS offset projects only have one reporting period, so if the deadline is missed, the project may no longer be issued ARB offset credits. The new language in section 95987(b)(3) allows an OPR to update the project listing status to "Inactive."

Summary of New Section 95987(b)(3)(D).
New section 95987(b)(3)(D) specifies that a U.S. Forest offset projects that terminates for any of the reasons identified in the protocol may be listed as "Terminated."

Rationale for New Section 95987(b)(3)(D).
U.S. Forest offset projects (i.e., those projects using one of the protocols in section 95973(a)(2)(C)4.), are terminated in circumstances as defined in the U.S. Forest protocols. New language in section 95987(b)(3) is necessary to enable the OPR to update the project listing status to "Terminated" consistent with the provisions of the U.S. Forest protocols.

Summary of New Section 95987(b)(3)(E).
New section 95987(b)(3)(E) 1.-7. provides a mechanism for projects that voluntarily decide not to pursue further registry or ARB offset credits to be listed as "Inactive" or "Terminated." Section 95987(b)(3)(E)1.-7. specifies that the request must be signed by the OPO's primary or alternate account representative, and that the request must also include the OPO name and CITSS identification number, the project name and OPR number, the name and date of the Compliance Offset Protocol that was used, the date the OPR approved listing, an indication the project will no longer pursue crediting, a request to change to "terminated" status, and the signature, name, title, and date signed.

Rationale for New Section 95987(b)(3)(E).
New section 95987(b)(3)(E)1.-7. is necessary to ensure greater clarity in the listing of offset projects that wish to terminate. Without these changes it is not possible to easily determine if a listed offset project is continuing or inactive. This increases transparency in the program. The requirement that the request be signed by the OPO's primary or alternate account representative is consistent with the new language in section 95973(e) about only primary or alternate account representatives signing documents submitted to an OPR or CARB.

Summary of New Section 95987(b)(4)(A)-(F).
New Section 95987(b)(4)(A)-(F) requires an OPR to make documentation explaining the updated listing status publicly available. New paragraphs (A)-(F) specify that the documentation is to be in memo format that includes the OPO name and CITSS number, the project name and ARB and OPR numbers, the protocol used, the date the

OPR approved listing, indication of missed deadline(s), and the date the OPR updated the status to "terminated."

Rationale for New Section 95987(b)(4)(A)-(F).
This new section is necessary to ensure public transparency for the offsets program through a public document explaining why a project listing status has been updated to either "Inactive" or "Terminated." This can be done by making publicly available the letter in new section 95987(b)(3)(E), or by making publicly available a memo explaining the reason for the updated listing status if the update is a result of any of the reasons identified in sections 95987(b)(3)(A)-(D). The required content of the memo is described in sections 95987(b)(4)(A)-(F).

Summary of New Section 95987(b)(5).
New section 95987(b)(5) provides for a new listing status of "Completed."

Rationale for New Section 95987(b)(5).
New section 95987(b)(5) is necessary to improve public transparency of the offsets program by enabling OPRs to change a listing status to "Completed" (most often from a prior listing status of "Active ARB Project" or "Terminated"). The new listing status of "Completed" is for projects which require no further monitoring or reporting and no further verifications are possible. For U.S. Forest projects, for example, this means that the 100-year period to monitor permanence of GHG removal enhancements is over. For ODS projects, for example, it would mean that they have completed a second verification to reduce the invalidation period or are no longer within the time period for which that is permissible to conduct the second verification. The "Completed" status does not mean that the invalidation period is over.

Summary of New Section 95987(b)(6).
New section 95987(b)(6) provides for a new listing status of "Monitored."

Rationale for New Section 95987(b)(6).
New section 95987(b)(6) is necessary to improve public transparency of the offsets program by enabling OPRs to change a listing status to "Monitored" to demonstrate a project is no longer eligible to receive further ARB offset credits but is required to monitor, report, and verify the GHG emissions reductions and GHG removal enhancements for which ARB offset credits have been issued until the end of the project's life.

Summary of Section 95987(e)(1)(F)1.
Section 95987(e)(1)(F)1. is modified to allow an OPR more flexibility to meet the requirement for an investigative review into potential COI.

Rationale for Section 95987(e)(1)(F)1.
Prior to modification, section 95987(e)(1)(F)1. required the OPR to interview the lead verifier. In many cases, the lead verifier may not be the best person for discovering the information envisioned by this regulatory requirement. In some cases, the VB has one

or more staff person whose specialization includes handling and monitoring the VB's COI policies. Moreover, the lead verifier may be a subcontractor who is not well acquainted with the VB's other work. The modification to section 95987(e)(1)(F)1. is necessary to ensure needed flexibility in how the OPR investigates possible COI with the lead verifier and the VB person most knowledgeable about the VB's COI self-evaluation.

Summary of Section 95987(f).
Section 95987(f) is modified to add two new requirements for an OPR, first to maintain a log of issues during its review of a verification report and second to provide to ARB certain documents following the issuance of any registry offset credits.

Rationale for Section 95987(f).
These modification are necessary to facilitate a more efficient review process by CARB. Knowing what issues were addressed and resolved will help to assure CARB that OPRs are meeting the existing requirement in section 95987(f) to review the detailed verification report and may streamline the CARB review process by narrowing he focus of the review based on better knowledge of the OPR review. Modifications to section 95987(f) to require the OPR to submit additional documents to CARB ensure that CARB staff is reviewing the same information used by the OPR to issue registry offset credits. The OPR is provided three working days to meet this requirement because OPOs and APDs generally submit the request for issuance of ARB offset credits within a day of registry offset credit issuance.

Summary of New Section 95987(f)(1).
New section 95987(f)(1) requires the OPR to submit all the required attestations to ARB following registry offset credit issuance.

Rationale for New Section 95987(f)(1).
New section 95987(f)(1) is necessary to ensure CARB staff is reviewing the same information used by the OPR to issue registry offset credits.

Summary of New Section 95987(f)(2).
New section 95987(f)(2) requires the OPR to submit the OPDR to ARB following registry offset credit issuance.

Rationale for New Section 95987(f)(2).
New section 95987(f)(2) is necessary to ensure CARB staff is reviewing the same information used by the OPR to issue registry offset credits.

Summary of New Section 95987(f)(3).
New section 95987(f)(3) requires the OPR to submit the OVS to ARB following registry offset credit issuance.

Rationale for New Section 95987(f)(3).
New section 95987(f)(3) is necessary to ensure CARB staff is reviewing the same information used by the OPR to issue registry offset credits.
Summary of New Section 95987(f)(4).
New section 95987(f)(4) requires the OPR to submit their issues log to ARB following registry offset credit issuance.

Rationale for New Section 95987(f)(4).
New section 95987(f)(4) is necessary to ensure CARB staff is reviewing the same information used by the OPR to issue registry offset credits.

Summary of New Section 95987(l).
New section 95987(l) requires an OPR to share with CARB an OPDR which it has received to meet an offset project's annual reporting requirement.

Rationale for New Section 95987(l).
New section 95987(l) is necessary to ensure CARB staff is reviewing the same information used by the OPR to issue registry offset credits. The regulation previously required an OPO or APD to submit the so-called original OPDR to CARB as part of a Request for Issuance, but this requirement in section 95981(b)(3) is being dropped, transferring the requirement to the OPO. The modification to section 95987(l) better assures that the OPDR has both been submitted to the OPR and submitted within the required timeframe. Also, because some projects may have more than two or three versions of the OPDR, the new section helps alleviate any confusion for the OPO or APD about which OPDR version prepared multiple months ago is the correct version to submit to CARB.

§ 95989. Direct Environmental Benefits in the State.

Summary of New Section 95989.
This new section establishes new requirements for offset projects to demonstrate how they provide direct environmental benefits in the State (DEBS). ARB offset credits issued to offset projects that provide DEBS are eligible to be used to meet the entire revised quantitative offset usage limit from section 95854 for covered entities, while no more than one-half of the quantitative offset usage limit may be sourced from offset projects that do not provide DEBS.

Rationale for New Section 95989.
This new section was required to describe how to implement the DEBS requirements as specified in AB 398.

Summary of New Section 95989(a).
New section 95989(a) specifies that any offset project that is physically located within the State of California or that avoids GHG emission in the State and uses any offset protocol adopted by the Board automatically provides DEBS. With respect to projects

using the Compliance Offset Protocol Ozone Depleting Substances (ODS), if the project contains some ODS from within the State, the project would automatically provide DEBS.

Rationale for New Section 95989(a).
This new section is necessary to clearly specify that all in-state offset projects, based on the design of the offset protocols, do provide DEBS. For ODS projects, even though the ODS is destroyed out-of-state, the project meets the DEBS criteria because it is sourced with ODS removed and salvaged from within the state. Chapter II, section B, subsection 2 (Offsets and Offset Program Implementation) of this ISOR provides a more detailed assessment of how offset projects in-state under each Compliance Offset Protocol would provide DEBS. This new section is intended to implement AB 398.

Summary of New Section 95989(b).
New section 95989(b) requires out-of-state offset projects that wish to be considered as providing DEBS to provide information to CARB to aid in the determination that the offset project provides a reduction or avoidance of emissions of any air pollutant in the State or the reduction or avoidance of any pollutant that could have an adverse impact on waters of the State. The reductions must be in addition to any GHG emissions reduction or removal enhancements that have received ARB offset credits. These could include air quality benefits such as reductions in: smog, smog precursors, dust, PM, NOx, SOx, odor, GHGs other than those for which the project receives credits, and water quality benefits such as reduced chemical contamination or reduced erosion.

Rationale for New Section 95989(b).
This new section is necessary to clearly define that out-of-state offset projects must provide justification of their DEBS claim to the satisfaction of ARB and to enumerate the type of justification out-of-state projects should provide. This requirement is necessary to enable CARB to determine whether the project provides direct environmental benefits in the State, as required by AB 398.

Summary of New Section 95989(b)(1).
New section 95989(b)(1) identifies scientifically peer reviewed data as one type of documentation that can be used to demonstrate that out-of-state offset projects provide DEBS.

Rationale for New Section 95989(b)(1).
This new section is necessary to enable OPOs to understand the types of information that CARB will rely on to evaluate DEBS claims. Scientific, peer-reviewed data provides an objective data source that has been tested and peer-reviewed, and is therefore an acceptable source for CARB to evaluate.

Summary of New Section 95989(b)(2).
New section 95989(b)(2) identifies reports from governmental or multination bodies as one type of documentation that can be used to demonstrate that out-of-state offset projects provide DEBS.

Rationale for New Section 95989(b)(2).
This new section is necessary to enable OPOs to understand the types of information that CARB will rely on to evaluate DEBS claims. Governmental reports provide a data source that has been subjected to public process and is an acceptable source for CARB to evaluate.

Summary of New Section 95989(b)(3).
New section 95989(b)(3) identifies project specific data as one type of documentation that can be used to demonstrate that out-of-state offset projects provide DEBS.

Rationale for New Section 95989(b)(3).
This new section is necessary to enable OPOs to understand the types of information that CARB will rely on to evaluate DEBS claims. Project specific data is subject to third-party verification and is an acceptable source for CARB to evaluate.

Summary of New Section 95989(c).
New section 95989(c) requires that any new offset project that is located outside the State of California that submits a first Offset Project Data Report after the proposed amendments go into effect and wishes to demonstrate DEBS must provide all relevant material as part of the documentation required for the first reporting period.

Rationale for New Section 95989(c).
This new section is necessary to ensure OPOs have a clear sense of timing of when to submit material used to demonstrate DEBS.

Summary of New Section 95989(d).
New section 95989(d) requires that any existing offset project that is located outside the State of California that has received ARB offset credits prior to the proposed amendments going into effect and that wants to demonstrate DEBS must provide documentation to CARB demonstrating DEBS by December 31, 2021.

Rationale for New Section 95989(d).
This new section is necessary to ensure OPOs have a clear sense of timing of when to submit material used to demonstrate DEBS. This date allows CARB sufficient time to review all DEBS claims before the first compliance instrument surrender deadline affected by section 38562(c)(2)(E) of the Health and Safety Code, on November 1, 2022.

Subarticle 14: Recognition of Compliance Instruments from Other Programs

§ 95990. Recognition of Early Action Offset Credits.

Summary of 95990(a)(3)(A)3.
The reference to 95990(l)(3)(A) through (l)(3)(A)2 was changed to 95990(a)(3)(A) through (a)(3)(A)2.

Rationale for 95990(a)(3)(A)3.
This revision was needed to correct the reference.

95990(a)(3)(B)1. - change the reference to 95990(f) to the "Program for Recognitions of early Action Offset Credits" (doesn't change meaning, correcting from not changing everywhere needed in a previous rulemaking.

Subarticle 15: Enforcement and Penalties

§ 96011. Authority to Suspend, Revoke, or Modify.

Summary of New Section 96011(d).
New section 96011(d) is added to clarify the actions the Executive Officer may take to protect the environmental stringency of the Program, including limiting transfers in or out of holding accounts, in circumstances that are not specifically enumerated in the existing provisions of section 96011. The new section also specifies the process by which the Executive Officer will provide public notice of any specific actions taken and the minimum information that would be included in such a notice.

Rationale for New Section 96011(d).
The new provisions are needed to more clearly list the authority of the Executive Officer to intervene in the tracking system to protect the environmental stringency of the Program in a wider variety of circumstances than those specifically enumerated in the existing provisions. The existing section focuses on violations by registered entities, and does not expressly include provisions for unforeseen circumstances, actions by jurisdictions (e.g., official acts to revoke, repeal, or indefinitely suspend a linked ETS program), and other instances that do not involve violations by registered entities but nonetheless threaten the environmental stringency of the Program.

The new provisions are also needed to clarify the types of information the Executive Officer will publish to inform market participants so they can properly assess likely market impacts and consider changes to their compliance strategies.

Summary of New Section 96011(d)(1)-(2).
New sections 96011(d)(1)-(2) require the Executive Officer to publish information about any actions taken pursuant to section 96011. The new provisions also detail the information that the Executive Officer must publish: a contact person to answer questions, duration of the action if that is known, details on the status of compliance instruments in accounts along with any other relevant information.

Rationale for New Section 96011(d)(1)-d)(2)(D).
The new section is needed to list the information the Executive Officer must provide to market participants and the general public. Staff intends the information to be sufficient to allow market participants and the general public to understand the nature of the

threats to the environmental stringency of the Program as well as the how the actions taken by the Executive Officer will protect the Program.

CARB will designate a contact person so that the public and market participants can obtain more detailed information if needed. CARB will inform the public of the duration of the action, if that is known, so that registered entities can adjust their compliance plans. CARB will also explain the status of existing compliance instruments so that entities can adjust their purchasing strategies and the public can gauge the significance of the threats. Finally, staff will provide other details that may be relevant to the specific threats.

Subarticle 16: Other Provisions

§ 96022. Jurisdiction of California.

Summary of 96022(a).
Section 96022(a) is modified to change the reference to section 95830(h) to section 95830(g).

Rationale for 96022(a).
This revision was needed to correct the reference.

Summary of Appendix B, Section 2.4.
Section 2.4 of Appendix B is amended to update the email address and phone number for the tracking system help desk.

Rationale for Appendix B, Section 2.4.
This change is necessary to provide current contact information for the tracking system help desk.

Summary of Appendix E.
Appendix E is amended to add environmental health and safety violations, and reporting violations to the list of violations that are outside the project boundary for all project types.

Rationale for Appendix E.
These changes are necessary to explicitly state that occupational health and safety, and reporting violations are outside the project boundary and projects receiving these types of violations are still eligible to receive ARB offset credits if the violations have been resolved prior to the project submitting a Request for Issuance of ARB offset credits. The amendments are necessary to improve flexibility for offset projects without impacting the environmental rigor or project-related conformance requirements established by the Regulation.

IV. BENEFITS ANTICIPATED FROM THE REGULATORY ACTION, INCLUDING THE BENEFITS OR GOALS PROVIDED IN THE AUTHORIZING STATUTE

Government Code section 11346.2(b)(1) requires enumeration of the anticipated benefits of the regulatory action, including the benefits and goals of the authorizing statute. The benefits that accrue from the proposed action include reducing GHG emissions, reducing criteria pollutants, minimizing leakage, and containing costs to yield economic benefits.

- Reduced GHG Emissions: The purpose of the Cap-and-Trade Program is to put an economy-wide cap on emissions in California to help the State achieve its 2020 and 2030 GHG targets set by AB 32 and SB 32 and to set the State on the path to achieving the 2050 target of reducing emissions by 80 percent relative to 1990 levels per Executive Order B-30-15. By putting a limit on emissions and creating a steadily increasing carbon price, the Program incentivizes investment in GHG reducing activities and technologies. The proposed amendments are not anticipated to change the GHG reductions expected of the Cap-and-Trade Program, as estimated in the 2017 Scoping Plan. However, the new DEBS provisions will allow for the classification of specific environmental benefits in the State from offset projects. Given that these amendments will continue to ensure the GHG emissions reductions required by the Program, these amendments may also protect public health and safety, worker safety, and the State's environment.

- Reduced Criteria Pollutant Emissions: The Cap-and-Trade Program is designed to reduce greenhouse gas (GHG) emissions, but criteria pollutants and air toxics are "co-pollutants" that are often associated with GHG emissions from combustion processes. Measures that reduce GHG emissions may also provide co-benefits through reductions of criteria air pollutants and toxic air contaminants. Statewide, emissions of criteria pollutants and air toxics are expected to be reduced along with GHGs as a result of extending the Program beyond 2020, as was done in the 2016 amendments. The proposed amendments are not anticipated to change these impacts, though the new DEBS provisions will allow for the classification of specific environmental benefits in the State from offset projects.

- Minimizing Emissions Leakage: AB 32 and AB 398 specify that the Cap-and-Trade Program must minimize emissions leakage, which is a reduction in emissions of GHGs within the State that is offset by an increase in emissions of GHGs outside the State. Free allocation to certain covered sectors is one way that that the Cap-and-Trade Program seeks to minimize emissions leakage. The proposed amendments seek to adjust allocation methodologies and clarify industrial activities that receive allocation. They also adjust assistance factors to be 100 percent for 2021 to 2030, as required by AB 398, and 2018 to 2020, as directed in Board Resolution 17-21. These changes improve allocation methods and increase levels of free industrial allocation, which ensure appropriate allocation levels and help to minimize emissions leakage.

- Cost Containment: The Cap-and-Trade Program seeks to stimulate the lowest cost emissions reductions by putting a steady, predictable, and increasing price on carbon. The Program also includes several mechanisms to contain costs. Offset credits fund reductions in uncapped sectors and serve as an important cost-containment mechanism by expanding opportunities for low-cost emissions reductions. The proposed amendments also modify the Program's Allowance Price Containment Reserve to create two new post-2020 Reserve tiers and a price ceiling. These programmatic changes will build into the Program a hard price cap and create two Reserve tiers that will provide a needed supply of allowances to contain costs and signal the need to find additional GHG reductions. These features should minimize both costs and market volatility, ultimately decreasing the costs that will be faced by covered entities and consumers.

  If the allowance price rises above the Reserve price in current Regulation for the post-2020 period, there may be an incentive for entities to make emissions reductions under the proposed amendments sooner than under the existing regulation. CARB expects these indirect benefits could accrue from investments in energy efficiency and energy conservation, funded either by covered entities attempting to find the lowest cost method of compliance or through the use of proceeds from the sale of State-owned allowances through the Greenhouse Gas Reduction Fund (GGRF). These reduced GHG emissions could result in benefits from avoided environmental damages and avoided health impacts related to a reduction in co-pollutants.

V. AIR QUALITY

This chapter describes the expected GHG and criteria pollutant emissions benefits associated with the proposed amendments. The proposed amendments would modify the Cap-and-Trade Regulation to reflect legislative direction under AB 398 concerning the implementation of the Cap-and-Trade Program beyond 2020, including establishing a price ceiling and two price containment points, revising the offsets quantitative offset usage limits in the post-2020 period, establish criteria such that no more than half of offset credits used for compliance post-2020 are sourced from projects that do not result in direct environmental benefits in the State of California, and specify leakage assistance factors for allocation post-2020. The proposed amendments would also specify leakage assistance factors for the third compliance period of the Program and streamline implementation requirements, including clarifying regulatory compliance and invalidation requirements of the Compliance Offset Program. The amendments do not significantly alter the overall manner in which the Cap-and-Trade Regulation is designed to reduce statewide GHG emissions. As such, the air quality benefits both to GHG emissions and to criteria pollutant emissions described in Chapter III of the Staff Report for the 2016 amendments (which went into effect on October 1, 2017) continue to apply and are hereby incorporated by reference (CARB 2016a).

In addition, local air districts, rather than CARB, have direct authority to regulate criteria pollutant and toxic emissions from stationary sources. Nevertheless, for many decades,

the State has implemented many policies and programs to address and reduce criteria and toxic air pollutants. As a result of these efforts, significant progress has been made in reducing diesel particulate matter (PM) and many other hazardous air pollutants. For example, and based on the most current CEPAM inventory (2016 SIP inventory tool V. 1.05), statewide NOx emissions have been reduced by 26 percent between 2012 and 2017, and diesel PM has been reduced by 50 percent over the same period.

CARB partners with air districts to address stationary emissions sources and adopts and implements State-level regulations to address sources of criteria and toxic air pollution, including mobile sources. The key air quality strategies being implemented by CARB include:

- State Implementation Plans. The 2016 State Strategy for the State Implementation Plan sets forth a comprehensive array of proposed control measures designed to achieve the emission reductions from mobile sources, fuels, stationary sources, and consumer products necessary to meet ozone and fine PM attainment deadlines established by the Clean Air Act.

- Diesel Risk Reduction Plan. As referenced in the 2010 ISOR to the Cap-and-Trade Regulation and the functional equivalent document incorporated by reference in the EA, California's Diesel Risk Reduction Plan recommends many control measures to reduce the risks associated with diesel PM and achieve a goal of 85 percent PM reduction by 2020. Diesel PM accounts for the majority of California's ambient air cancer risk.

- Sustainable Freight Action Plan. Executive Order B32-15 required the development of an integrated Sustainable Freight Action Plan, which seeks to improve freight efficiency, transition to zero emission technologies, and increase competitiveness of California's freight system. This Action Plan was released in July 2016.

- AB 32 Scoping Plan. As referenced in the ISOR and in the EA for the 2016 Cap-and-Trade Amendments, the original (2008), first update (2014), and the final 2017 Scoping Plan Update contain the main proposed strategies California will use to reduce the GHGs that cause climate change and achieve the State's climate goals. Following legislative direction in AB 197 (discussed above), the 2017 Climate Change Scoping Plan Update estimates the toxic and criteria emissions reductions co-benefits expected of proposed scoping plan measures.

- AB 1807. AB 1807 requires CARB to use certain criteria in prioritizing the identification and control of air toxics.

- AB 2588 Air Toxics "Hot Spots" Program. As referenced in the EA, AB 2588 imposes air quality requirements on the state. The goals of the program are to collect emission data, identify facilities having localized impacts, ascertain health risks, notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

- SB 605 Short-Lived Climate Pollutant Plan. In March 2017, CARB adopted a comprehensive short-lived climate pollutant strategy, which involves coordination with other state agencies and local air quality management and air pollution control districts to reduce emissions of short-lived climate pollutants. This strategy offers many localized air quality benefits, including reductions in volatile organic compound (VOC) emissions from oil and gas operations and livestock operations, as well as particulate matter reductions from incentives to replace woodstoves.

To support efforts to advance the State's toxics program, OEHHA finalized a health risk assessment methodology on March 6, 2015.[58] In light of this, CARB is collaborating with air districts in the review of the existing toxics program under AB 2588 to strengthen the program.

Adoption and implementation of the proposed amendments to the Regulation is expected to have no negative environmental impacts on environmental justice communities. The proposed amendments do not alter any compliance pathway for any covered entity, and they apply equally to all facilities throughout the state. Moreover, they are not expected to create any adverse economic impact (see Chapter VIII), and as such no disproportionate harm will be felt by environmental justice communities.

VI. ENVIRONMENTAL ANALYSIS

CARB, as the lead agency for the proposed amendments, has prepared an environmental analysis under its certified regulatory program (Cal. Code Regs., tit. 17, §§ 60000 through 60008) to comply with the requirements of the California Environmental Quality Act (CEQA). CARB's regulatory program, which involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State's ambient air quality has been certified by the California Secretary for Natural Resources under Public Resources Code section 21080.5 of CEQA (Cal. Code Regs., tit. 14, § 15251(d)). CARB, as a lead agency, prepares a substitute environmental document (referred to as an "Environmental Analysis" or "EA") as part of the Staff Report to comply with CEQA (Cal. Code Regs., tit. 17, §60005).

The Draft EA for the proposed amendments (referred to as the "Proposed Project" in the Draft EA) is included in Appendix B to this Staff Report. The Draft EA provides a programmatic environmental analysis of the reasonably foreseeable compliance responses that could result from implementation of the proposed amendments to the Cap-and-Trade Regulation. In accordance with CARB's certified regulatory program, and consistent with CARB's commitment to public review and input on its proposed actions, the Draft EA is subject to a public review process through the posting of the proposed amendments along with the Draft EA for a public review period. At the conclusion of the public review period, CARB will prepare written responses to

[58] See OEHHA Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments, February 2015. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

environmental comments received on the Draft EA and make revisions to the Draft EA, as necessary. The Final EA and the written responses to environmental comments will be considered by the Board at a public hearing in fall 2018. If the proposed amendments are approved, a Notice of Decision will be posted on CARB's website and filed with the Secretary for Natural Resources. (Cal. Code Regs., tit. 17, § 60007 (b)). A courtesy copy of the Notice of Decision will also be filed with the State Clearinghouse.

The Draft EA provides an environmental analysis which focuses on reasonably foreseeable potentially significant adverse and beneficial impacts on the physical environment resulting from reasonably foreseeable compliance responses taken in response to implementation of the proposed amendments. The Draft EA is intended to disclose potential adverse impacts and identify potential mitigation specific to the proposed amendments. The Draft EA states that implementation of the proposed amendments would continue to result in beneficial impacts to GHGs and beneficial impacts to energy demand.

For the purpose of determining whether the proposed amendments would have a potential adverse effect on the environment, CARB evaluated the potential physical changes to the environment resulting from reasonably foreseeable compliance responses for the proposed amendments. Approval of the proposed amendments, reflecting legislative direction under AB 398, would specify leakage assistance factors for allocation post-2020 and for the third compliance period, and streamline Program implementation. The environmental effects of the continuation of the Cap-and-Trade Program would build upon the compliance responses of the existing Cap-and-Trade Program.

The Draft EA concluded, under a conservative approach, that implementation of these proposed amendments could result in the following beneficial and adverse impacts: beneficial impacts to energy demand and greenhouse gases; less-than-significant impacts to aesthetics, agricultural and forest resources, population, housing, and employment, public services, recreation, and utilities and service systems; and potentially significant and unavoidable adverse impacts to air quality, biological resources, cultural resources, geology, soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, and transportation and traffic. The potentially significant and unavoidable adverse impacts are primarily related to short-term, construction-related activities. This explains why some resource areas are identified above as having both less-than-significant impacts and potentially significant impacts.

While many impacts associated with the proposed amendments could be reduced to a less-than-significant level through conditions of approval applied to project-specific development, the authority to require and implement that mitigation lies with land use agencies or other agencies approving the development projects, not with CARB. Consequently, the Draft EA takes the conservative approach in its significance conclusions and discloses, for CEQA compliance purposes, that impacts from the development of new facilities or modification of existing facilities associated with

reasonably foreseeable compliance responses to the proposed amendments could be potentially significant and unavoidable under several resource areas. Please see the Draft EA, which is included in Appendix B to this Staff Report, for additional information regarding the proposed amendment's environmental impact analysis.

Written comments on the Draft EA will be accepted starting September 7, 2018 through 5:00 p.m. on October 22, 2018. The Board will consider the Final EA and responses to comments received on the Draft EA before considering adoption of the proposed amendments.

VII. ENVIRONMENTAL JUSTICE

Government Code section 65040.12(e) defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. CARB is committed to making environmental justice an integral part of its activities. The Board approved its Environmental Justice Policies and Actions (Policies) on December 13, 2001, to establish a framework for incorporating environmental justice into CARB's programs consistent with the directives of State law (CARB 2001). While these policies apply to all communities in California, CARB recognizes that environmental justice issues arise disproportionately in the context of low-income and people of color communities.

As part of the economic, emissions, and environmental evaluation of the Cap-and-Trade Regulation for its initial adoption in 2011, staff assessed the emissions reduction opportunities available to California sources covered by the Regulation. This evaluation considered the potential for the incentives and flexibility inherent in the Program to result in direct, indirect, and cumulative emission impacts, including localized impacts in communities that are already adversely affected by air pollution. Based on the available data, the current law and policies that control localized air pollution, and the expected compliance responses to the Regulation, CARB concluded that increases in localized air pollution, including toxic air contaminants and criteria air pollutants, attributable to the Program are extremely unlikely. While data does not indicate that the Cap-and-Trade Program is contributing to increases in local air pollution, CARB recognizes the need to achieve additional emissions reductions of toxic and criteria pollutants that are impacting communities. As discussed initially in Chapter 1 of this ISOR, AB 617 (Chapter 136, Statutes of 2017), the Community Air Protection Program, provides a new framework and tools for CARB, in collaboration with local air districts, to deploy focused monitoring and ensure criteria and toxics emissions reductions at the State's largest GHG emitters.

The proposed amendments revise some of the core elements of the Program for both the pre- and post-2020 periods, and the compliance responses resulting from the proposed amendments are expected to be similar to those in the initial evaluation (CARB 2010d); thus staff anticipates that the impacts and benefits will also be similar.

The proposed amendments would not relieve any entity subject to local air permitting requirements from the obligation to obtain a permit from the local air permitting agency.

Assembly Bill 197 (AB 197, Garcia, Chapter 250, Statutes of 2016) provides that, when adopting rules and regulations pursuant to Division 25.5 of the Health and Safety Code to achieve emissions reductions beyond the 2020 statewide greenhouse gas limit, CARB shall follow the requirements in Health and Safety Code section 38562(b), consider the social costs of the emissions of greenhouse gases, and prioritize emissions reduction rules and regulations that result in direct emission reductions from various sources. The proposed amendments are wholly consistent with these considerations pursuant to AB 197.

CARB designed the Cap-and-Trade Regulation taking into account section 38562(b).[59] The proposed amendments retain and modify the major elements of the Regulation, including those features bearing on section 38562(b) considerations. AB 398 requires that CARB consider the "full social cost associated with emitting a metric ton greenhouse gases" when setting the price ceiling. As such, in considering the level at which to set the price ceiling, CARB considered SC-CO_2 price of $60.29 ($2018)[60] in 2030 under a 3 percent discount rate, in a similar manner as per the 2017 Scoping Plan. CARB also received, and considered, comments that pointed to other public information that estimates different SC-CO_2 prices.

In addition, CARB considered the social costs of GHG emissions and prioritized emissions reduction rules and regulations that result in direct emission reductions from various sources when it promulgated regulatory amendments in 2017 to extend the Cap-and-Trade Program post-2020. In particular, the post-2020 declining cap acts to constrain and reduce emissions across approximately 80 percent of California's GHG emissions sources to ensure the 40 percent below 1990 level target is achieved, especially if complementary measures fail to achieve their anticipated GHG reductions.

As designed, the Regulation will ensure GHG emission reductions occur within California that may also reduce criteria pollutants and toxic air contaminants. Sources covered by the Regulation include natural gas and fuel suppliers, large stationary sources, and electricity importers. Several features of the post-2020 Program and proposed amendments address concerns raised by environmental justice advocates:

- The steeper cap decline from 2021 through 2030 means that the proposed amendments would result in direct emissions reductions at covered entities, including large stationary sources and other GHG emission sources, with potential co-benefits of reductions in criteria pollutants and toxic air contaminants

[59] *See* Proposed Regulation to Implement the California Cap-and-Trade Program, Staff Report: Initial Statement of Reasons, at II-50 - II-53 (2010), *available at*: https://www.arb.ca.gov/regact/2010/capandtrade10/capisor.pdf.
[60] *See* discussion on the social cost of carbon and Table 6 in Chapter 2, section 1 (Cost Containment Post-2020) of this ISOR.

- The quantitative offset usage limit is reduced from 8 percent to 4 percent in 2021 through 2025, and then 6 percent thereafter
- The requirement that half of the quantitative offset usage limit apply to offsets that do not provide direct environmental benefits may also result in co-benefits within the state, and
- The proposed removal of the exemption for waste-to-energy facilities is consistent with recommendations from some environmental justice stakeholders.

Specifically, environmental justice advocates are concerned that implementation of the Cap-and-Trade Program will lead to adverse air quality impacts in disadvantaged communities. As a result of the efforts on addressing air quality discussed in Chapter V on Air Quality, actions of CARB, local air districts, and federal air pollution control programs have made substantial progress towards improving the air quality in California. However, some communities, largely low-income and people of color communities, continue to experience higher exposures than others because of the cumulative impacts of air pollution from multiple sources located in these communities. It is important to note that the Cap-and-Trade Program is just one of many programs that address air emissions in California, and CARB is just one of several organizations responsible for administering these policies. Following are examples of additional efforts in the State to reduce air emissions, as led by CARB and other organizations.

As noted in the Executive Summary, some of the monies collected from the sale of Cap-and-Trade Program allowances at the quarterly auctions are allocated for programs that benefit disadvantaged communities. These investments yield GHG and air pollutant co-benefits. The list below includes some of the programs being funded by the Cap-and-Trade Program auction monies that are benefitting disadvantaged communities:

- Low-Income Weatherization Program/Renewable Energy
- Urban forestry
- Zero and near-zero emission passenger vehicle rebates
- Heavy duty hybrid/ZEV trucks and buses
- Pilot programs (car sharing financing, etc.) in disadvantaged communities
- Intermodal affordable housing
- Transit-oriented development

Further, on December 3, 2015, Governor Brown issued a directive for OEHHA to prepare by December 1, 2016, a report analyzing the benefits and impacts of the greenhouse gas emissions limits adopted by the Board. The report will be updated at least every three years. The report, at minimum, will track and evaluate (a) greenhouse gas emissions, criteria air pollutants, toxic air contaminants, short-lived climate pollutants, and other pollutant emission levels in disadvantaged communities; and (b) public health and other environmental health exposure indicators related to air pollutants in disadvantaged communities. Benefits are expected to include the investment of Cap-and-Trade Program auction monies in programs that benefit these communities.

OEHHA released its initial report in February 2017,[61] and the report notes there are complexities in trying to correlate GHGs with criteria and toxics emissions across industry and within sectors. Further, OEHHA observed that "[t]he key challenge in analyzing the benefits and impacts of climate-change programs on disadvantaged communities is acquiring adequate data. As discussed in this report, data on emissions of GHGs, criteria air pollutants and toxic air pollutants are collected by multiple entities under different programs and statutory mandates. Differences in reporting requirements across regulatory programs can complicate data analysis. In addition, toxic emissions data for many facilities are only updated every four years, further limiting conclusions that can be reached."[62] Some specific challenges include matching facility identification numbers, coordinating data submittal requirements and methods, harmonizing reporting deadlines and frequency, and inconsistent quality assurance/quality control methods.

As described earlier in this ISOR, new legislation was passed in 2017 establishing a new program to improve air quality in local communities (AB 617). The legislation helps ensure California continues to meet its ambitious climate change goals while addressing air pollution in communities with the dirtiest air. AB 617 requires CARB to establish a uniform statewide system of annual reporting for the emissions data and provides more direct and appropriate tools for the State to coordinate with air districts in addressing community level air pollution. CARB has begun work to implement a new community-focused air quality program including monitoring and emission reduction plans,[63] and is developing a proposed regulation for annual reporting of criteria pollutant and toxic air contaminant emissions for stationary sources.[64]

VIII. ECONOMIC IMPACTS ASSESSMENT

A. Legal Requirements

Sections 11346.3 and 11346.5 of the Government Code require State agencies to assess the potential for adverse economic impacts on California business enterprises and individuals when proposing to adopt or amend any administrative regulation. The assessment shall include consideration of the impact of the proposed regulation on California jobs, business expansion, elimination, or creation, and the ability of California businesses to compete. State agencies are also required to estimate the cost or savings to any State or local agency and school districts in accordance with instruction adopted by the Department of Finance. This estimate is to include any nondiscretionary costs or savings to local agencies and the costs or savings in federal funding to the State.

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[61] OEHHA, Initial Report: Tracking and Evaluation of Benefits and Impacts of Greenhouse Gas Limits in Disadvantaged Communities. February 2017. Available at https://oehha.ca.gov/environmental-justice/report/ab32-benefits.
[62] Id. at 49.
[63] More information on CARB's Community Air Protection Program can be found on CARB's website at https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program-ab-617.
[64] *See* https://www.arb.ca.gov/ei/ctr/ctr-regulation/ctr-regulation.htm.

This chapter presents results from analyses that estimate the impacts on the California economy of the proposed amendments to the Cap-and-Trade Program.

B. Proposed Amendments to Cap-and-Trade Program Design Elements

1. De-Linking With the Canadian Province of Ontario

California's Cap-and-Trade Program is part of a multi-jurisdictional program to reduce greenhouse gas emissions that currently also includes the Canadian provinces of Ontario and Québec. The proposed amendments to the Regulation would remove the Canadian province of Ontario. This follows the decision by the Government of Ontario to file a regulation that revoked Ontario's cap-and-trade regulation on July 3, 2018. Ontario's new regulation prohibits Ontario's cap-and-trade participants from purchasing, selling, trading or otherwise dealing with emission allowances and credits (compliance instruments). Thus, all accounts registered in Ontario have been suspended.[65]

Ontario's Cap-and-Trade Program became operationally linked with the joint California-Québec program on January 1, 2018. At that time, trades could occur between entities located in any jurisdiction. This meant that California and Québec entities could hold Ontario-issued allowances and Ontario entities could hold California and Québec allowances. In addition, the three jurisdictions held joint auctions in February and May. Successful bidders in those auctions would have received allowances from all jurisdictions.

When entities initiate transfers in CITSS, they observe the vintage of allowances they transfer. However, they do not observe the origin of allowances they transfer. Thus, any entity that receives a transfer from another entity may receive allowances issued by any jurisdiction. This is because the California Program, as well as the programs in Québec and Ontario, were designed to achieve fully fungible linkage.

Combined with the revocation of the Ontario cap-and-trade regulation on July 3, 2018, the effect of these events was to cease any further transfers of Ontario-issued allowances into California and Québec entity accounts after June 15, 2018. This means that across the full programs, California and Québec entities have some Ontario-issued allowances from the first two joint auctions of 2018 as well as any bilateral trades between entities.

Staff has determined that as of June 15, 2018, there are 13,186,967 more compliance instruments held in California and Québec entity accounts than the total number of compliance instruments issued by the two jurisdictions alone. This small surplus represents approximately 1% of the total allowances in California and Québec entity accounts for vintage years through 2021.

[65] The regulation change may be accessed at https://www.ontario.ca/laws/regulation/r18386.

CARB and Québec have already publicly determined that any allowances (whether issued by Ontario, California, or Québec) held in California and Québec entity accounts as of June 15, 2018 (e.g., the last day Ontario entities could transfer to California or Québec entity accounts) are valid for compliance purposes and for trading or selling between participants of the two jurisdictions. The proposed amendments include express language to recognize this determination. Given this determination, the economic impact of de-linking from Ontario therefore depends on whether California implements any allowance budget changes to address this imbalance.

As part of the proposed amendments, staff is proposing amendments to enable the cancelation or issuance of additional allowances to ensure the environmental stringency of the California Cap-and-Trade Program is maintained as if there had not been a linkage approved with the External GHG ETS.

Canceling future vintage allowances in order to maintain the environmental stringency of the Program would effectively restore the allowance budgets in the linked California-Québec market to the level that existed prior to the linkage with Ontario. Thus, delinking should not result in in a discernable change in allowance prices.

2. Modifying Assistance Factors in Calculating Free Allocation of Allowances to Industrial Producers

Free allowance allocation to industrial producers is based on product- or energy-based benchmarks, the emissions leakage risk, and the cap adjustment factor. Assistance factors range from zero to 100 percent, and they are used to scale free allowance allocation based on the emissions leakage risk of industrial entities. Table 8-1 of the proposed amendments provides changes to assistance factors for each industrial sector for the third compliance period (2018-2020) and the post-2020 Program as applicable. Staff is proposing that assistance factors for the third compliance period be increased to 100 percent for sectors categorized as being at medium and low leakage risk. AB 398 specifies that for the post-2020 Program, all assistance factors are set to 100 percent. For the results presented in this economic analysis, the assistance factors are used to reduce the modelled production cost increases in the covered sectors that receive free allowance allocation relative to the current Regulation.

The cap adjustment factor is another variable used to calculate the number of allowances regulated entities receive each year by free allocation. The cap adjustment factor declines annually from 2021 through 2030 in proportion to the overall emissions cap for the Program as shown in Table 9-2 of the proposed amendments.

The proposed changes to 2018 through 2020 allocation will reduce compliance costs for the industrial covered entities that receive higher assistance factors. Table 12 shows estimated changes in allocation by high-level sector based on assumptions of constant output from 2018 through 2020, 2018 allocation levels, and the cap decline factor.

Mining, quarrying and oil and gas extraction sectors (NAICS 21) already received a 100 percent assistance factor, so these sectors would see no change in allocation under the proposed amendments.

Table 12. Estimated Change in 2018 to 2020 Allowance Allocation

NAICS 2-digit	High-Level Sector with CP3 Allocation Change	2018 change	2019 change	2020 change
11	Agriculture, Forestry, Fishing	59,184	57,202	55,203
31	Manufacturing - Food, Apparel, etc.	307,230	296,940	286,565
32	Manufacturing - Wood, Rubber, Nonmetalic Minerals, etc.	6,435,290	6,219,763	6,002,439
33	Manufacturing - Metals, Machinery, Computers, etc.	157,762	152,478	147,151

Table 13 shows estimated changes in industrial allowance allocation value, evaluated at allowance values of the relevant year's Auction Reserve Price in real 2018 dollars. For example, 2019 allowance values are determined based on Table 13's projected allowance allocation evaluated at $15.26 per allowance (a 5 percent real increase from the $14.53 value of the Auction Reserve Price for 2018 auctions).

Table 13. Estimated Change in 2018 to 2020 Allocation Value

NAICS 2-digit	High level Sector with CP3 Allocation Change	2018 change	2019 change	2020 change
11	Agriculture, Forestry, Fishing	$859,944	$872,700	$884,317
31	Manufacturing - Food, Apparel, etc.	$4,464,047	$4,530,266	$4,590,574
32	Manufacturing - Wood, Rubber, Nonmetalic Minerals, etc.	$93,504,769	$94,891,812	$96,155,027
33	Manufacturing - Metals, Machinery, Computers, etc.	$2,292,282	$2,326,285	$2,357,253

3. Assigning Emissions Obligations to Participants in the CAISO Energy Imbalance Market

The current Regulation includes a solution intended to act as a bridge to support accurate accounting while CAISO develops a modification to the EIM algorithm that would permanently support accurate accounting. CARB has implemented a methodology for calculating and retiring allowances equivalent to EIM Outstanding Emissions. EIM Outstanding Emissions represent CARB's calculation of the shortfall in GHG emissions supporting California load unaccounted for by EIM entity compliance obligations as identified by CAISO, and reported to CARB by EIM participants as part of MRR reporting.

In early 2018, CAISO released a new proposal that would limit the amount of electricity available to support EIM imports to California by constraining individual resource bids to

amounts above the base schedule. CAISO anticipates implementing its new proposal in late 2018.

This new proposal will improve the accuracy of GHG emissions accounting, but within any given five-minute interval the EIM model could still be attributing lower emitting resources to serve California load without accurately capturing the emissions resulting from the imported electricity. When EIM determines which out-of-state resources are deemed delivered to California in a particular interval, the EIM model will always minimize costs by attributing delivery to the cleanest participating resources that elected to be deemed delivered to serve California load. The cleanest resources are deemed delivered regardless of whether the emissions associated with those specific resources are the only emissions used to satisfy the EIM energy transfer to California. Given the inherent design of the EIM model, the system, even with the proposed improvements, would not address all of the EIM GHG accounting concerns. This is also discussed by CAISO in its EIM Greenhouse Gas Enhancements 3rd Revised Draft Final Proposal which states "the proposal reduces secondary dispatches, but does not eliminate them."[66]

CARB supports CAISO's latest proposal to limit the bid quantity and must ensure that our climate programs are accounting for all GHG emissions from electricity serving California load. The proposed EIM Purchaser amendments in this rulemaking package allow CARB to fully account for GHG emissions resulting from electricity generated to serve California load by assigning a compliance obligation for EIM Purchasers based on EIM Outstanding Emissions. CARB will continue to work with CAISO as they assess how the EIM market design could be enhanced to directly account for the full GHG emissions when determining which resources support California load, at which time the EIM Purchaser requirements that are described below and in Chapter 2 of this ISOR would no longer be necessary.

Modified Bridge Solution: Future Budget Retirement

Under the current Regulation, CARB will retire allowances from the pool of unsold allowances (e.g., those that remain unsold at auction for more than 24 months) in the amount of EIM Outstanding Emissions as calculated pursuant to MRR. This retirement from the unsold allowances pool will occur in 2018 for EIM Outstanding Emissions from 2017. The proposed amendments modify this process such that for 2018 emissions and for 2019 emissions through March 31, 2019, instead of retiring unsold allowances to satisfy EIM Outstanding Emissions, CARB staff would retire unassigned allowances from future budget years.

Staff expects a minor economic impact of the modified bridge solution. Retiring allowances that would otherwise be auctioned has the potential to increase market prices. However, this does not have a significantly different impact compared with the existing approach, which retires unsold allowances.

[66] *See* http://www.caiso.com/Documents/ThirdRevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf.

Staff proposes the modified bridge solution because the annual allowance budget is the initial pool from which these allowances would have originated if EIM Outstanding Emissions were included in the compliance obligations of specific covered entities. Therefore, it is reasonable to retire EIM Outstanding Emissions directly from the state allowance budget, as opposed to unsold allowances. In addition, AB 398 restricts what may be done with unsold allowances in the post-2020 period of the Program, meaning these allowances would no longer be available to retire to compensate for EIM Outstanding Emissions post-2020.

Proposed Change to Assign Obligation to EIM Purchasers

In addition to further clarifying the interim "bridge solution" of retiring allowances to compensate for EIM Outstanding Emissions through the first part of 2019 emissions, CARB staff also proposes amendments for a longer term solution. These amendments would take effect starting with EIM Outstanding Emissions reported to MRR beginning April 1, 2019, and would place the EIM Outstanding Emissions compliance obligation directly on in-state entities who receive EIM imbalance energy to serve California load. The receipt of EIM imbalance energy results in EIM imports, and by extension directly generates EIM Outstanding Emissions. These entities are referred to as "EIM Purchasers."

Staff has initially identified 36 entities that may be designated as EIM Purchasers pursuant to the proposed amendments. Of these entities, there is one state entity, one federal entity, and 34 private entities. The state and federal entities are currently covered entities within the Cap-and-Trade Program.

The anticipated compliance obligation for EIM Purchasers can be estimated using historical information on EIM Outstanding Emissions from emissions year 2016 as a proxy for future EIM Outstanding Emissions. As stated above, CAISO anticipates implementing an EIM enhancement in late 2018 that will improve the accuracy of GHG emissions accounting, and thus reduce the scale of EIM Outstanding Emissions under similar future dispatch conditions. Therefore, using 2016 historical information may result in an overestimate of the anticipated EIM Purchaser compliance obligation. For emissions year 2016, however, EIM Outstanding Emissions were over 527,460 $MTCO_2e$. In 2018, the 2018 Auction Reserve Price was $14.53. At $14.53, 527,460 allowances would be valued at $7,664,000. If all EIM Purchasers had the same level of EIM participation, each of the potential 36 EIM purchasers would have a supplemental compliance obligation of approximately $213,000. It is expected that EIM Purchasers with greater reliance on EIM energy to serve California load will have a larger compliance obligation than this average estimated amount, and EIM Purchasers with less reliance on EIM energy will have a smaller compliance obligation than this estimated amount.

With the exception of EIM Purchasers, covered entities are unable to reduce EIM Outstanding Emissions resulting from EIM imports. By placing the EIM Outstanding

Emissions obligation directly on EIM Purchasers in proportion to the level of EIM Outstanding Emissions generated by their real-time energy imbalances, EIM Purchasers are incented to take steps to minimize this supplemental compliance obligation. This incentive to minimize this source of emissions, and thus cost to these EIM Purchasers, results in a reduction in overall costs to covered entities, resulting from a decrease in costs to non EIM Purchasers that more than compensates for the increase in costs to EIM Purchasers.

The EIM Purchaser proposal is expected to result in a minor fiscal benefit. Unsold allowances and future budget allowances would no longer be retired to meet EIM Outstanding Emissions. Unsold allowances would instead be placed in the current Reserve (given that AB 398 prevents post-2020 unsold allowances from being retired for the EIM Outstanding Emissions obligation), and future budget allowances could be sold at auction in future years. The fiscal benefit to future budget allowances of transitioning from the modified bridge proposal to the proposed EIM Purchaser provision starting April 1, 2019 would mirror the increased costs to EIM Purchasers.

As noted above, staff has identified one state entity that may be categorized as an EIM Purchaser. Under the assumption that all EIM Purchasers had equal levels of EIM participation; this would result in a supplemental annual compliance obligation for that entity of $213,000. CARB staff expects this state entity to have a lower-than-average EIM Purchaser compliance obligation given the relative scale of electric load served in California by this and other EIM Purchasers. Therefore, staff anticipates the state entity could face between a $0 and $213,000 additional compliance obligation. As noted above, CAISO anticipates implementing an EIM enhancement in late 2018 that will improve the accuracy of GHG emissions accounting, and thus reduce the scale of EIM Outstanding Emissions under similar future dispatch conditions. Therefore, the calculated additional compliance obligation may be an overestimate of the future EIM Purchaser compliance obligation.

4. Changes to the Quantitative Offset Usage Limit and Imposition of the Direct Environmental Benefit in the State Requirement

AB 398 imposes two requirements that could have the effect of reducing the percentage of offsets each California covered entity may surrender for compliance post-2020, as well as reducing the supply of offsets that qualify for the full surrender percentage.

Change in Quantitative Offset Usage Limit

AB 398 requires that CARB implement a quantitative offset usage limit of 4 percent of compliance obligations based on emissions from 2021 to 2025, and then increase the quantitative offset usage limit to 6 percent of compliance obligations based on emissions from 2026 to 2030. As described in the SRIA (Appendix C of this ISOR), CARB would not anticipate any economic impact from the change in the quantitative offset usage limit if the number of offsets issued in the future by all jurisdictions continues to be less than the combined quantitative offset usage limits for the linked

jurisdictions. If, on the other hand, the proposed amendments' implementation of AB 398's quantitative offset usage limit serve as a restriction on offset usage, then the proposed changes do result in economic impacts. In this case, offset usage for compliance would have been higher under the current Regulation, but because of the imposition of the quantitative offset usage limit changes in response to AB 398, entities must use more allowances. The following section discusses potential impacts of the offset changes should entities need more allowances for compliance.

Direct Environmental Benefit in the State

AB 398 specifies that no more than one half of the quantitative offset usage limit for data years 2021-2030 may be met by ARB offset credits from projects that do not provide direct environmental benefits in the State. AB 398 defines "direct environmental benefits in the state" (DEBS) as "the reduction or avoidance of emissions of any air pollutant in the state or the reduction or avoidance of any pollutant that could have an adverse impact on waters of the state." This requirement pertains to the reduction or avoidance of any air pollutant, in addition to GHGs for which an offset project receives credits, or the reduction or avoidance of any pollutant that could have an adverse impact on waters of the state.

CARB has proposed a definition of what constitutes a DEBS that is taken from AB 398. However, staff are unable to determine at this time what proportion of existing offsets would meet the definition. For purposes of this economic analysis, staff assumes there will be some (currently unknown) proportion of offsets issued that do not provide a DEBS.

Application of the DEBS criteria may change the way in which covered entities use offsets. Once CARB applies the DEBS criteria to specific projects and determines their DEBS qualifications, there will be an incentive for those holding or already contracted to purchase offsets that may not meet the DEBS definition to use them for second and third compliance period surrender, before the restriction comes into effect. Prices of offsets that provide DEBS (or even for those that are expected to provide DEBS) would likely rise in relation to offsets that do not provide DEBS.

The DEBS requirement will apply to offsets surrendered to cover emissions from 2021 onwards. Therefore, this provision will not restrict the number of offsets that may be used to cover obligations from 2018 through 2020. Under the existing 8 percent offset usage limit, California covered entities could use approximately 33 million offsets per year for the second and third compliance periods. An increased use of offsets (within the existing 8 percent quantitative offset usage limit) during 2018 through 2020 may provide some reduced cost of compliance during that period, as offsets are still lower cost compliance options than purchasing and retiring allowances.

Combined Effects of the Two Offset Restrictions

The DEBS and quantitative usage restrictions could create a pool of offsets that can be used by California covered entities through 2020, but only used in limited quantities after that, which could affect their current market value. If the DEBS and quantitative usage restrictions limit the number of offsets California covered entities may use for compliance, entities would have to either invest in more onsite reductions earlier than planned or, more likely, purchase more allowances. This could increase allowance prices as well as the proceeds from the auction of state owned allowances. As the impact depends on future emissions, potential opportunities for abatement, and market conditions that are uncertain, the overall impact of the two offset restrictions is not known with certainty.

CARB does not have a forecast of future offset production under its proposed definition of DEBS. CARB makes two assumptions to estimate the potential cost impact of this provision. First, CARB assumes entities would use offsets up to each year's limit. Second, CARB evaluates the cost of compliance instruments at the Auction Reserve Price. As the above assessment makes clear, CARB cannot determine how many additional allowances entities will have to use for compliance to replace offsets they can no longer used based on the two restrictions described above. Staff calculates the cost of a hypothetical one percent increase in the use of allowances to replace offsets. This approach allows for the scaling up of cost estimates if estimates of offsets that do not meet the DEBS criteria become available in the future. CARB estimates the incremental cost of an additional allowance surrendered using historical differences between average allowance and offset prices.

Potential change in allowance prices due to offset rules

Based on the observed offset usage from entities in the Program, CARB anticipates that restricting the use of offsets will have minimal economic impact on businesses, and even then, only if covered entities in linked jurisdictions do not use offsets up to their current 8 percent quantitative offset usage limit for 2018-2020 emissions. If that happens, and California entities use offsets up to the California limits, then CARB assumes California covered entities will have to purchase a greater number of allowances to cover their compliance obligation. Since prices for offsets are currently about 15 percent less expensive than allowances, as indicated by the Summary Table of Market Transfers Completed in 2016,[67] covered entities will be paying a higher amount to cover their compliance obligation. This could potentially result in increased investments in onsite reductions, however given the uncertainty in entity response, this potential impact is not quantified.

CARB estimates the increased cost of the change in offset rules at $32 million per year from 2021 through 2025 (when the AB 398 quantitative offset usage limit is 4 percent) and about $16 million per year from 2026 through 2030 (when the AB 398 quantitative offset usage limit is 6 percent) when evaluated at the 2018 Auction Reserve Price.

[67] *See* https://www.arb.ca.gov/cc/capandtrade/2016transferssummary%20final.xlsx.

Table 14 presents the estimated incremental cost to entities in California from the change in offset rules for the years 2021 and 2026 when the offset limit is the most limited, though impacts will exist for all years. The values in the table represent the average expenditure on allowances or offsets over the 2021-2025 and 2026-2030 periods.

If the quantitative offset usage limits and DEBS requirement reduce the pool of offsets available to California covered entities, the additional purchase of allowances to replace the offsets could increase the price of allowances. While the potential price impact is highly uncertain, if the price of allowances were to increase by 1 percent, then covered entities would spend an estimated additional $85 million per year from 2021 through 2025 and about $65 million per year from 2026 through 2030.

Table 14. Potential Impacts from Offset Use Limit Change Evaluated at the Auction Reserve Price (Million $2018)

	2021-2025 Average Expenditure	**2026-2030 Average Expenditure**
Current Baseline Use Limit	**8%**	**8%**
Allowances Cost	$5,007.3	$4,931.8
Offset Cost	$370.6	$365.0
Total Cost	$5,377.8	$5,296.8
Proposed Amendment Use Limit	**4%**	**6%**
Allowances Cost	$5,194.4	$5,039.0
Offset Cost	$211.3	$273.7
Total Cost	$5,405.7	$5,312.8
Absolute Change	$27.9	$16.0
Percent Change	0.5%	0.3%

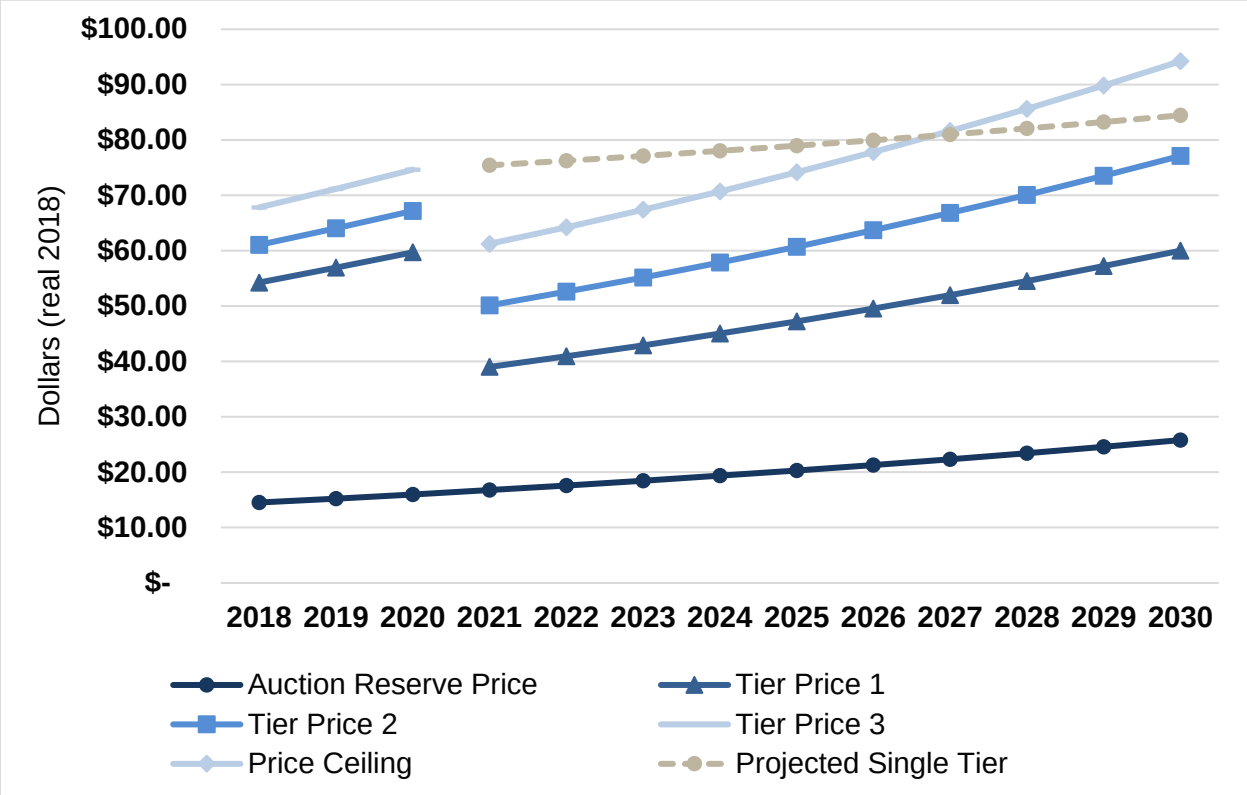
The net effect of the proposed amendments are ambiguous. Québec may be able to use some of the California-ineligible offsets post-2020. In addition, California and Québec entities may be able to use the California offsets that do not provide DEBS prior to 2021.

5. Changes to the Allowance Price Containment Reserve and Imposition of the Price Ceiling

This section evaluates the potential economic impact of changes to the Allowance Price Containment Reserve (current Reserve) and the imposition of the price ceiling. The proposed amendments would create two post-2020 Reserve tiers at new prices, in lieu of the current Reserve and the post-2020 single tier Reserve established by the amendments approved by the Board in 2017. In addition, the proposed amendments

would create a price ceiling above the two new Reserve tiers. Figure J shows the current Reserve from 2018 to 2020, and the new post-2020 Reserve tiers and price ceiling relative to the single tier from 2021 to 2030. All prices are in real 2018 dollars. This same figure was discussed in Chapter 2 of this ISOR (see Figure C).

Figure J. Proposed Price Structure for New Post-2020 Reserve and Price Ceiling.



This section's analysis is inherently speculative, as changes to the existing Regulation's Reserve would only have an impact if allowance prices rise (1) above the level of the two new Reserve price containment points, and (2) above the level of the existing single Reserve tier price.

Table 15 shows the quantities of allowances proposed to be available at each of the new post-2020 Reserve tiers and price ceiling. This table was also included as Table 8 in Chapter 2 of this ISOR.

Table 15. Distribution of Allowances in Current and AB 398 Reserve Mechanisms

Tier	Current Reserve (Through 2020)	AB 398 New Post-2020 Reserve
	(millions)	
1	53.6[a]	40.6 + 26.2[b]
2	53.6[a]	40.6 + 26.2[b] + 22.7[c]
3	53.6[a]	NA
Price Ceiling	none	79.6 (40.6, 39 unsold)
Additional tons	none	Price Ceiling Units
Total Allowances	160.8	235.9[d]

[a] Includes an estimated 39M (divided equally in each tier) pre-2021 allowances that currently remain unsold at auction for greater than 24 months.
[b] Includes addition of 52.4M allowances designated to the Reserve starting in 2021.
[c] 22.7 million additional allowances represent increase in offset limit from 4 to 6 percent.
[d] Plus all price ceiling units requested for compliance by covered entities if allowances in new post-2020 Reserve tiers and price ceiling are exhausted.
Source: CARB staff estimates

As shown in Figure J, both tiers are below the existing Regulation's single tier price for the entire post-2020 Program. From Table 15, the new first tier would make 66.8 million allowances available at a price that would be lower than the price of the single Reserve tier under the existing Regulation for the entire post-2020 Program. The second new Reserve tier would make another 89.5 million allowances available at a price below that of the price of the single Reserve tier under the existing Regulation for the Program post-2020. Summing both of these tier quantities together, the new post-2020 Reserve would make a combined 156.3 million allowances available at a price level below what would be available under the current single Reserve tier system. In addition, the price ceiling would be lower than the existing single Reserve tier price until 2027. These features would reduce entities' compliance costs compared with the existing Regulation if prices were to rise to these levels.

The proposed amendments would also eliminate the borrowing mechanism that exists in the current Regulation. The borrowing mechanism ensured that market prices would not rise above the single Reserve tier price. Removal of the borrowing mechanism, together with the new price ceiling being higher than the existing single Reserve tier price means that market prices could rise above what could be expected under the current Regulation. While staff believes it is highly unlikely that the price ceiling will be reached, staff has conducted a macroeconomic analysis based on the assumption that market prices remain at the price ceiling, thus providing an upper bound for potential costs. The remainder of this chapter describes the economic model used, inputs to the analysis, and a summary of the economy-wide impacts.

C. Method for Determining Economy-Wide Economic Impacts

The direct costs discussed in Section 2 Direct Costs on Typical Businesses are input into Regional Economic Models, Inc. (REMI), Policy Insight Plus Version 2.1.1 to estimate the possible macroeconomic impacts of the proposed amendments on the California economy. REMI is a structural economic forecasting and policy analysis model that integrates input-output, computable general equilibrium, econometric and economic geography methodologies.

REMI Policy Insight Plus provides year-by-year estimates of the total impacts of the proposed amendments, pursuant to the requirements of SB 617 and the California Department of Finance. CARB uses the REMI 2.1 single-region, 160-sector model with the model Reference case adjusted to reflect the Department of Finance Conforming Forecast dated November 2017. These forecasts include California population figures, U.S. real GDP forecast, and civilian employment growth numbers.

The proposed amendments are simulated in REMI by adjusting production costs for covered sectors to reflect the purchase of Cap-and-Trade Program allowances, the distribution of free allowances, and the transfer of proceeds from the quarterly auction of allowances to sectors that have been identified to receive legislative appropriation of these funds. Based on reported emissions for 2016, the Cap-and-Trade Program covers about 45 different 2 to 4-digit NAICS sectors in the REMI model. CARB recognizes that modeling the proposed amendments in REMI through changes in production costs for covered entities and modifications to consumption and state spending (reflecting investment of auction proceeds) may not capture the full impact of the Program. For example, several simplistic assumptions are made about how allowance value is returned to the economy (i.e., how much and to which sectors) when in reality revenue return will be more complicated affecting more sectors or different mechanisms of return. However, CARB cannot anticipate how the Legislature will distribute funds from the GGRF in the future. Combined with the expected small percentage impacts on different sectors, assumptions on how the proceeds will be returned will largely determine the pattern of economic impacts.

D. Inputs for the Macroeconomic Analysis

The estimated economic impacts of the proposed amendments are sensitive to modeling assumptions. The direct and indirect costs and benefits of the proposed amendments estimated in previous sections are translated into REMI variables and used as inputs for the macroeconomic analysis. Direct impacts include the cost of compliance and changes in demand for high carbon goods – relative to the current Regulation. Indirect impacts calculated in previous sections include cost pass through to consumers and any potential changes in state and local tax revenue. The model uses the inputs to calculate additional indirect and induced effects. The additional indirect effects are changes in sales, income or employment within California that supplies good or services to the directly affected industries. Induced effects capture changes within California that result from changes in household spending.

While the proposed amendments contain provisions that might impact the cost of complying with the Cap-and-Trade Program (including changes to the quantitative offset usage limit and DEBS criteria), the impact of these provisions is not anticipated being outside the range of impacts estimated under the current Regulation. These provisions are not anticipated to result in a change in allowance price that is outside the range analyzed for the current Regulation, bound by the Auction Reserve Price and the current Reserve price.

As such, the macroeconomic modeling focuses on the provision of the proposed amendments that could result in an incremental economic impact to the California economy. The proposed price ceiling affects the upper bounds on the cost of complying with the proposed amendments relative to the current Regulation. Table 16 provides the price ceiling and single tier prices from 2021 to 2030 in real 2018 dollars.

Table 16. Price Ceiling and Single Tier Prices from 2021-2030 (Real $2018).

Year	Price Ceiling	Projected Single Tier from Existing Regulation
2021	$ 61.25	$ 75.43
2022	$ 64.25	$ 76.25
2023	$ 67.40	$ 77.11
2024	$ 70.71	$ 78.02
2025	$ 74.17	$ 78.97
2026	$ 77.81	$ 79.96
2027	$ 81.62	$ 81.01
2028	$ 85.62	$ 82.10
2029	$ 89.82	$ 83.25
2030	$ 94.22	$ 84.46

From 2021 to 2026, the proposed price ceiling is below the current Regulation's single tier, and reduces the upper bound cost of complying with the proposed amendments should prices reach the price ceiling. From 2027 to 2030, the proposed price ceiling is modestly above the current Regulation's single tier. Therefore, there could be additional macroeconomic impacts relative to the current Regulation for the years 2027 through 2030 if allowance prices exceeded the single tier price.

Whether and when the price ceiling may be reached is highly uncertain as many features in the Program work together to support a smooth and steadily increasing allowance price below the proposed amendment's price ceiling price. The price ceiling is meant to be a safety valve and not a price goal. The 2018 Auction Reserve Price is $14.53, while the May 2018 auction cleared at a price of $14.65 (i.e., all current-vintage allowances were awarded at the price of $14.65 per allowance). For prices to rise from the May auction clearing price to the proposed price ceiling would require an unprecedented rate of increase of allowance prices. Historically the auction clearing

price has largely tracked the Auction Reserve Price, which increases 5 percent each year. Thus, the annual rate of growth in the auction clearing price has been around 5 percent since the start of the Program. Table 17 presents the annual compound rates of growth that would be required to get from $14.65 to the price ceiling in a particular year of the proposed amendments and the Reserve price under the current Regulation.

Table 17. Annual Rate of Growth for Allowance Price to Rise from May 2018 Auction Clearing Price to the Price Ceiling or Single Reserve Tier for Selected Years

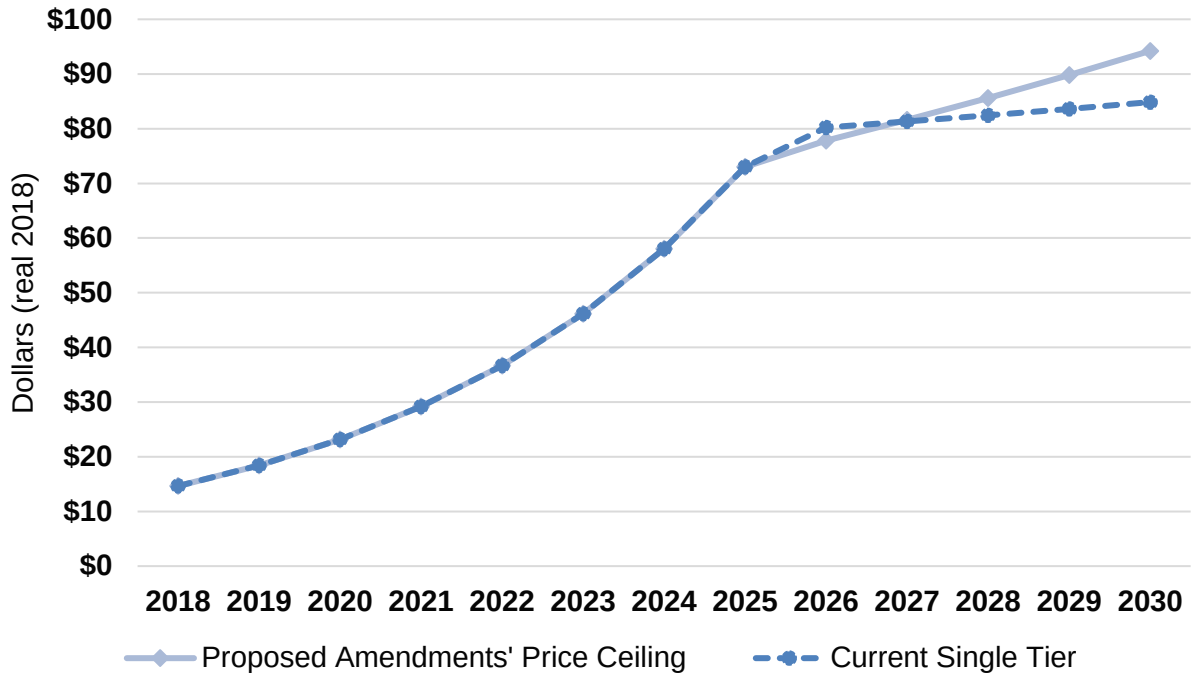
	2018-2021	2018-2025	2018-2030
Post-2020 Single Reserve Tier	73%	27%	16%
Proposed Amendments	61%	26%	17%

The path of prices is highly uncertain and can result in significantly different economic impacts. While it is highly unlikely that the price ceiling will be reached in any year, there are any number of price paths between the current allowance price and the price ceiling. As an illustrative example, prices could increase steadily by the percentages outlined in Table 17 each year, or there could be a period of no growth in allowance prices followed by a period of extremely high growth.

Conducting the economic modeling requires an assumed rate of price increase from current allowance price levels to the price ceiling. To create an allowance price path, it is assumed that prices grow at a constant rate of 26 percent per year from the May 2018 auction clearing price of $14.65 to the price ceiling presented in Table 16. The 26 percent per year represents the yearly rate of growth that would be needed to reach the proposed price ceiling by 2025.

Figure K presents the price path used to reach the price ceiling in this analysis. The macroeconomic impact of the proposed amendments is the difference between the Reserve price path under the current Regulation and the price ceiling price path for the proposed amendments. Relative to the current Regulation, the proposed amendments will result in higher upper bounds for compliance costs relative to the current Regulation. However, it is important to note, that establishing a price ceiling does not mean that the price value will be reached, the price ceiling instead establishes a maximum price per metric ton.

Figure K. Hypothetical Price Paths Used for REMI Modeling of Ceiling Prices ($2018)



A second important assumption in the modeling is return of allowance value. As described in the SRIA for the proposed amendments, CARB assumes the allowance value is returned to the economy to covered sectors for allocation, to the GGRF, or directly to consumers. For allowance values at the price ceiling paths, in 2030 the value that could be directed to the GGRF or to consumers ranges from $9.6 billion under the low alternative, to $15.3 billion under the proposed amendments, to $37.2 billion (2018 dollars) under the high alternative. This value is calculated based on proceeds from the sale of allowances, and excludes any potential moneys that would be generated from sale of price containment units. Where this allowance value is directed makes a difference in the modeling results. In past Cap-and-Trade analyses, it was assumed that a constant amount of $2 billion per year was directed to GGRF sectors with the remaining value being returned directly to consumers. In this analysis, it is assumed that 50 percent of returnable value (not including allocation to covered sectors) is directed to GGRF sectors in the percentages presented in Table 19 with the remaining 50 percent being returned directly to consumers. The shares shown in Table 19 are loosely based on legislative appropriation from the GGRF through 2018. The return of future revenue through the GGRF will be subject to legislative appropriation. In this manner, as value increases with higher auction-clearing prices, a larger share of the allowance values goes to GGRF sectors.

Table 18. Conceptual Distribution of GGRF Value based on Historic Appropriation of Funds

Strategy	REMI Sector	Percent of Value to Sector
Sustainable Communities and Clean Transportation	Consumer new motor vehicles	12.5%
	Rail transportation	50.0%
	Truck transportation	12.5%
Energy Efficiency and Clean Energy	Consumer Household maintenance	20.0%
	Water, sewage, and other systems	1.0%
Natural Resources and Waste	Forestry; Fishing, hunting, trapping	2.0%
	Waste management and remediation	2.0%
Total per Year		100.0%

California Climate Investments projects include affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, more sustainable agriculture, recycling and much more. At least 25 percent of these investments are made in disadvantaged and low-income communities.[68]

E. Economy-Wide Impacts

This section presents the impacts of the Program on Gross State Domestic Product (GSP), employment, and California business as modeled by REMI. All presented results are measured as the change from the current Regulation's single tier Reserve price to the proposed amendment's 2030 price ceiling price.

As the California economy is anticipated to grow through 2030, in the REMI baseline, negative impacts can be interpreted as a slowing of growth, and positive impacts represent an increased rate of growth. The values in the presented tables represent the incremental change in the modeled value from the Reference case to the modeled policy scenario for the year considered. These tables outline the estimated impact of the proposed amendments if prices reach the price ceiling, relative to the current Regulation's single tier price.

1. Gross State Product (GSP)

Table 19 presents the REMI results for GSP, the market value of all goods and services produced in California if the allowance price reaches the price ceiling (Amended Regulation) rather than the single tier price (Reference Case). For the ceiling price analyzed, impacts on California GSP are small relative to the size of the California economy.

[68] *See* https://ww2.arb.ca.gov/our-work/programs/california-climate-investments.

Table 19. Estimate Impact of the Amended Regulation on State Gross Domestic Product.

Allowance Price	Impact at Amended Regulation's Price Ceiling Relative to the Current Regulation's Single Tier (billions $2018)		Percent Change	
	2025	2030	2025	2030
Proposed Amendments	0.0	0.0	0.0%	0.0%

2. California Employment Impacts

Table 20 presents the REMI results for total employment if the allowance price reaches the price ceiling (Amended Regulation) rather than the single tier price (Reference Case). Depending on the industry, the model predicts small increases or decreases in employment. In aggregate, the model predicts a small impact on overall employment in the State if prices reach the price ceiling, relative to the current Regulation's single tier price. The slight increase in employment growth can be attributed to the recycling of allowance value to covered entities, GGRF recipients, and consumers. However, over the duration of the analysis, the increases in production costs counterbalance the return of allowance value, leaving growth in employment roughly unchanged relative to the baseline scenario. In the model, the impacts at the state level are not greatly changed by the means in which money is returned within the State, indicating that as long as the value remains in California, the overall effects of the Program could be small relative to the size of the California economy.

Table 20. Estimated Total Employment Impact of the Amended Regulation

Allowance Price	Impact at Amended Regulation's Price Ceiling Relative to the Current Regulation's Single Tier (thousands of jobs)		Percent Change	
	2025	2030	2025	2030
Proposed Amendments	0.0	3.9	0.0%	0.0%

3. California Business

Table 21 presents the 2025 and 2030 estimated changes to sector gross value added from the proposed amendments if the allowance price reaches the price ceiling (Amended Regulation) rather than the single tier price (Reference Case). Gross value added is the contribution of each private industry and government to the State's gross domestic product. Estimated sector impacts to gross value added are both negative and positive, but small in magnitude. Overall sector gross value added is unchanged at the Auction Reserve Price and is reduced by 1.4 percent at the price ceiling price. Sectors with the greatest negative changes are those with large direct obligations such as utilities, mining, manufacturing, wholesale trade, and transportation and

warehousing. Sectors with the greatest positive changes are those that benefit from the return of allowance value, such as transportation and warehousing (e.g., High-speed Rail), which receives GGRF funds or the service sectors, which receive revenue indirectly from increased consumer spending.

Table 21. Sector Impacts Gross Value Added Percent Change of the Amended Regulation.

Sector	Impact at Amended Regulation's Price Ceiling Relative to the Current Regulation's Single Tier (billions $2018)		Percent Change	
	2025	2030	2025	2030
Forestry, Fishing, and Related Activities	0.0	0.0	0.0%	0.0%
Mining	0.0	-0.1	0.0%	-0.5%
Utilities	0.0	-0.1	0.0%	-0.2%
Construction	0.0	0.0	0.0%	0.0%
Manufacturing	0.0	-0.1	0.0%	0.0%
Wholesale Trade	0.0	0.0	0.0%	0.0%
Retail Trade	0.0	0.0	0.0%	0.0%
Transportation and Warehousing	0.0	0.0	0.0%	0.0%
Information	0.0	0.0	0.0%	0.0%
Finance and Insurance	0.0	0.0	0.0%	0.0%
Real Estate and Rental and Leasing	0.0	0.1	0.0%	0.0%
Professional, Scientific, and Technical Services	0.0	0.0	0.0%	0.0%
Management of Companies and Enterprises	0.0	0.0	0.0%	0.0%
Administrative and Waste Management Services	0.0	0.0	0.0%	0.0%
Educational Services	0.0	0.0	0.0%	0.0%
Health Care and Social Assistance	0.0	0.1	0.0%	0.0%
Arts, Entertainment, and Recreation	0.0	0.0	0.0%	0.0%
Accommodation and Food Services	0.0	0.0	0.0%	0.0%
Other Services, except Public Administration	0.0	0.1	0.0%	0.1%
Total	0.0	0.0	0.0%	0.0%

F. Potential Impacts to Individuals

Individuals are not directly covered by the Cap-and-Trade Program but they will be affected by increased fossil fuel prices and the secondary price increase of all products based on their use of fossil fuels, if prices reach the price ceiling.

Results from the REMI modeling shown Table 22 indicate that there could be a slight decrease in the growth of personal income and personal consumption across all consumer categories as a result of the proposed amendments if the allowance price reaches the price ceiling (Amended Regulation) rather than the single tier price (Reference Case). Personal income includes income received from participation in production as well as from government and business transfer payments. In both the baseline case and proposed amendment case, personal income grows at an annual rate of 2.1 percent.

Table 22. Change from the Reference Case in Personal Income.

Allowance Price	Impact at Amended Regulation's Price Ceiling Relative to the Current Regulation's Single Tier (billions $2018)		Percent Change	
	2025	2030	2025	2030
Preferred Alternative	0.0	0.0	0.0%	0.0%

Table 23 presents the results in 2025 and 2030 for impacts of the proposed amendments on consumer spending if prices reach the price ceiling rather than the single tier price (Reference Case). Consumer spending represents the value of goods and services purchased by individuals. Consumer spending declines are greatest for consumer categories that include goods covered by the Program, such as household utilities; motor vehicle fuels, lubricants, and fluids; and fuel oil and other fuels. Motor vehicles and parts and furnishings, and durable household equipment sectors are affected by the use of allowance value to support vehicle and household energy efficiency, but the impacts are very small.

Table 23. Consumer Spending in 2025 and 2030 Percent Change from Reference Case.

Category	Impact at Amended Regulation's Price Ceiling Relative to the Current Regulation's Single Tier (billions $2018)		Percent Change	
	2025	2030	2025	2030
Motor vehicles and parts	0.0	0.0	0.0%	0.5%
Furnishings and durable household equipment	0.0	0.0	0.0%	0.0%
Recreational goods and vehicles and other durable goods	0.0	0.0	0.0%	0.0%
Food and beverages purchased for off-premises consumption	0.0	0.0	0.0%	0.0%
Clothing and footwear	0.0	0.0	0.0%	0.0%
Motor vehicle fuels, lubricants, and fluids	0.0	0.0	0.0%	-0.8%
Fuel oil and other fuels	0.0	0.0	0.0%	-0.8%
Other nondurable goods	0.0	0.0	0.0%	0.0%
Housing	0.0	0.0	0.0%	0.0%
Household utilities	0.0	0.0	0.0%	-0.7%
Transportation services	0.0	0.0	0.0%	0.1%
Health care	0.0	0.0	0.0%	0.1%
Recreation and other services	0.0	0.0	0.0%	0.2%

G. Potential Impact on Business Competitiveness Including Small Business

For covered entities, the proposed amendments may affect businesses competitiveness in California differently. The increase in free allocation will help minimize the competitive disadvantage for California businesses. The change in offset use has the potential to increase compliance costs, which could increase the competitive disadvantage for California businesses. Finally, the establishment of a price ceiling could reduce any competitive disadvantage for California businesses in the event of a rapid increase in allowance prices.

Based on the entities already subject to the Cap-and-Trade Regulation, no small businesses would face a compliance obligation under the proposed amendments.[69] Small businesses will be indirectly affected by the Cap-and-Trade Program due to the any change in allowance prices which affect the fossil fuels. Costs will vary based on businesses' use of fossil fuels and its ability to reduce fossil fuel in its operations.

[69] *See* https://www.arb.ca.gov/cc/capandtrade/citssregistrants6.29.18.pdf.

According to data from the U.S. Small Business Association, commercial establishments make up about 85 percent of all establishments with less than 100 employees.[70] The Cap-and-Trade Program directly increases the price of fossil fuels and it increases the price of other products when they produced and transported using fossil fuels.

H. Potential Impact on Business Creation, Elimination, or Expansion

The Amended Regulation is unlikely to lead to the elimination of businesses in California. While similar businesses outside California do not currently have to account for carbon costs, the incremental economic impact of the Amended Regulation (relative to the current Regulation) is negligible and is highly unlikely to result in business elimination in California. As long as the price ceiling in the Amended Regulation is lower than the single Reserve tier price under the current Regulation, there will be no elimination of business as a result of the Amended Regulation. If the price ceiling is reached under the Amended Regulation, for years in which the price ceiling is higher than the single Reserve tier price of the current Regulation, businesses could face higher compliance costs which could lead to the small possibility of the elimination of businesses in California. However, this is highly uncertain and given the negligible impact of the Amended Regulation on the overall California economy, unlikely.

Free allowance allocation to industrial covered entities is provided under the Program to minimize the potential for emissions leakage from California; this allocation also minimizes the related drop in California business. As part of the proposed amendments, staff proposes setting the 2018 through 2020 assistance factors at 100 percent. The proposed amendments also set 100 percent assistance factors for the 2021 to 2030 Program. This change in allowance allocation incents GHG efficient in-state production to minimize the potential for emissions leakage.

The proposed establishment of two new Reserve tiers with prices below the single tier price under the existing Regulation could reduce the adverse impact on business elimination in California in the event of a rapid increase in allowance prices.

The proposed amendments may also lead to the creation of businesses that produce or sell low-carbon technologies or other market-related businesses, such as offset credit providers and verifiers.

I. Potential Costs to Local and State Agencies

1. Local Government

Currently, some local government entities (e.g., local utilities) are regulated parties in the Program, and would continue to have a compliance obligation under the proposed

[70] *See* https://www.sba.gov/sites/default/files/advocacy/Table_1_-_Number_of_firms_establishments_employment_and_payroll_by_firm_size_state_and_industry.xlsm.

amendments. These local governments could face administrative costs as well as costs associated with obtaining and surrendering compliance instruments. There may be additional impacts based on the continuance and appropriation of Greenhouse Gas Reduction Fund (GGRF) funds (i.e., the State's portion of proceeds from Cap-and-Trade auctions) that are directed to local government. However, pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed amendments would not create costs or mandate to any local agency or school district that are reimbursable by the State pursuant to Government Code, title 2, division 4, part 7 (commencing with section 17500).

Local government entities that purchase goods and fossil fuels in California, but are not directly covered by the Program, will face higher prices for fossil fuels and products that use fossil fuels if the cost of allowances under proposed amendments are higher than under the current Program. However, the potential impact is unknown given uncertainty in future emissions and market conditions under the proposed amendments. Local governments could also benefit from new lower carbon technologies and innovations that may be indirect benefits of the Amended Regulation. There may be additional impacts based on the continuance and appropriation of auction proceeds from the Greenhouse Gas Reduction Fund (GGRF) that are directed to local government

2. State Government

EIM First Purchasers

CARB staff has identified one potential EIM Purchaser that is a state entity. CARB staff expects the state entity to have a lower-than-average EIM Purchaser compliance obligation given the relative scale of electric load served in California by this and other EIM Purchasers. This data suggests the state entity may face between a $0 and $213,000 additional compliance obligation when evaluated at the 2018 Auction Reserve Price. CAISO anticipates implementing an EIM enhancement in late 2018 that will improve the accuracy of GHG emissions accounting, and thus reduce the scale of EIM Outstanding Emissions under similar future dispatch conditions. Therefore, the calculated additional compliance obligation may be an overestimate of the future EIM Purchaser compliance obligation. As this supplemental compliance obligation would be a component of the total cost of its operations, staff anticipates the state entity could pass through the supplemental cost to its customers.

State Universities

The Cap-and-Trade Program covers some State government entities. Examples include several University of California and California State University campuses and a State hospital. These entities would incur compliance costs under the proposed amendments. These State entities currently face administrative costs as well as costs associated with obtaining and surrendering compliance instruments. It is not anticipated that administrative costs will change under the Amended Regulation. Public universities currently receive an allocation of allowances so they do not have to cover the full cost of their emissions obligation. To the extent that compliance costs may be higher under the

Amended Regulation, State entities could face higher costs associated with compliance. However, the potential impact is unknown given uncertainty in future emissions and market conditions under the Amended Regulation. There may be additional impacts based on the continuance and appropriation of auction proceeds from the Greenhouse Gas Reduction Fund (GGRF) that are directed to local government.

3. CARB

The proposed amendments would have minimal impact on staffing resources, which could be accommodated through a redistribution of existing staff. The fiscal impact of the proposed amendments for CARB is expected to be negligible.

4. Other State Agencies

The proposed amendments could potentially impact other state agencies based on the continuance of GGRF proceeds that could be directed to other state agencies, however these impacts are unknown and unquantified.

1. Federal Entities

CARB staff has identified a federal entity that might be affected by the EIM Purchaser provision. Based on historical data, CARB staff expects the federal entity to have a lower-than-average EIM Purchaser compliance obligation given the relative scale of electric load served in California by this and other EIM Purchasers. This data suggests the federal entity may face between a $0 and $213,000 additional compliance obligation. CAISO anticipates implementing an EIM enhancement in late 2018 that will improve the accuracy of GHG emissions accounting, and thus reduce the scale of EIM Outstanding Emissions under similar future dispatch conditions. Therefore, the calculated additional compliance obligation may be an overestimate of the future EIM Purchaser compliance obligation. As this supplemental compliance obligation would be a component of the total cost of its operations, staff anticipates the state entity could pass through the supplemental cost to its customers.

IX. EVALUATION OF REGULATORY ALTERNATIVES

Government Code section 11346.2, subdivision (b)(4) requires CARB to consider and evaluate reasonable alternatives to the proposed amendments and provide reasons for rejecting those alternatives. This section discusses alternatives evaluated and provides reasons why these alternatives were not included in the proposal. As explained below, no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the Regulation in a manner than ensures full compliance with the authorizing law. The Board has not identified any reasonable alternatives that would lessen any adverse impact on small business.

The Executive Officer analyzed three alternatives to the proposed amendments and determined that all of the alternatives would be less effective in carrying out the purpose

for which the action is proposed than the proposed amendments, as described in the staff report and presented below.

Take No Action Alternative for Complete Regulation. An overall "no action" alternative means that no revisions would be made to the existing Cap-and-Trade Regulation. Under this alternative, CARB and entities covered by the Regulation would continue to operate pursuant to the requirements of the existing Regulation. If CARB were to take no action, the Regulation would not be consistent with AB 398 requirements, covered entities would not receive appropriate levels of allowance allocation, and the EIM GHG emissions would not be properly accounted for, among other impacts. For these reasons, the take no action alternative is neither practical nor beneficial to CARB and covered entities and other market participants.

Set the Price Ceiling at a Higher Level. Under this alternative, CARB would set the price ceiling well above the level of the post-2020 single tier Reserve price under the current Regulation as well as the price ceiling value of the proposed amendments. As described in the SRIA (Appendix C to the ISOR), setting the price ceiling at this level could have impacts that include the following: estimated total cost to industry in 2030 could be $44.42 billion, $26.16 billion more than the estimated cost under the proposed amendments (in real 2018 dollars); gross domestic private investment relative to the current Regulation and relative to the proposed amendments could decrease; and much higher compliance costs make it likely that this alternative could be less cost-effective than the Regulation with the proposed amendments. As such, this alternative was rejected because it would be less cost-effective than the proposed amendments and because it is neither practical nor beneficial to CARB and covered entities and other market participants.

Set the Price Ceiling at a Lower Level. Under this alternative, CARB would set the price ceiling well below the level of the post-2020 single tier Reserve price under the current Regulation as well as the price ceiling value of the proposed amendments. As described in the SRIA (Appendix C to the ISOR), relative to the proposed amendments, this alternative would result in decreased costs to covered entities. However, this lower price ceiling may be too low to incent adoption of abatement technologies, delaying or preventing emissions reductions from occurring. This could possibly result in additional environmental damages, which can be valued using social cost of carbon (which may not account for the full damages), and risk not achieving the GHG reductions necessary to achieve the State's 2030 reduction target. If demand for allowances rises and the price ceiling is reached, the 2030 GHG reduction target would be met only through metric ton for metric ton reductions at the price ceiling and not through reductions from capped sectors. Reliance on these reductions, along with a price ceiling that may be too low to be accepted by other jurisdictions may jeopardize existing and future linkages, while also requiring the introduction of GHG measures analyzed in Alternative 1 of the 2017 Scoping Plan. As such, this alternative was rejected for not meeting the goal of incenting GHG reductions from capped sectors, for jeopardizing linkages, and because it is neither practical nor beneficial to CARB and covered entities and other market participants.

Small Business Alternative

The Board has not identified any reasonable alternatives that would lessen any adverse impact on small business.

Performance Standards in Place of Prescriptive Standards

With respect to Government Code sections 11346.2(b)(4)(A) and 11346.2(b)(1), the proposed amendments do not mandate the use of specific technologies or equipment, or prescribe specific actions or procedures on regulated entities.

Health and Safety Code section 57005 Major Regulation Alternatives

CARB estimates the proposed Regulation will have an economic impact on the State's business enterprises of more than $10 million in one or more years of implementation. CARB will evaluate alternatives submitted to CARB and consider whether there is a less costly alternative or combination of alternatives that would be equally as effective in achieving increments of environmental protection in full compliance with statutory mandates within the same amount of time as the proposed regulatory requirements, as required by Health and Safety Code section 57005.

X. JUSTIFICATION FOR ADOPTION OF REGULATIONS DIFFERENT FROM FEDERAL REGULATIONS CONTAINED IN THE CODE OF FEDERAL REGULATIONS

Government Code section 11346.2(b)(6) requires CARB to describe its efforts to avoid unnecessary duplication or conflicts with federal regulations that address the same issues. No federal regulations address the same issues as CARB's proposed regulations, so the proposed amendments do not conflict with nor duplicate any federal regulations.

XI. REFERENCES

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XII. APPENDICES

Appendix A. Proposed Regulation Order.
Appendix B. Draft Environmental Analysis (EA)
Appendix C. Standardized Regulatory Impact Assessment (SRIA)
Appendix D. AB 398: Evaluation of Allowance Budgets 2021 through 2030
Appendix E. Public Process