

## Cap-and-Trade Program: Allowance Distribution Factsheet

Released January 29, 2021

### Background

In 2006, the California Legislature approved Assembly Bill 32 (AB 32),<sup>1</sup> which established the State's 2020 greenhouse gas (GHG) emission reduction target, required the California Air Resources Board (CARB) to adopt a Scoping Plan for achieving the target, and authorized CARB to include a Cap-and-Trade Program as a carbon pricing mechanism within a broad portfolio of policies to help achieve the target. AB 32 requires CARB to update the Scoping Plan every five years in order to understand progress and identify the mix of policies necessary to achieve long-term GHG reduction targets. In 2016, Senate Bill 32 set a target of achieving 40% below the 2020 GHG reduction target by 2030.<sup>2</sup> In 2017, AB 398<sup>3</sup> reaffirmed legislative support for a Cap-and-Trade Program with a bipartisan and super majority vote.<sup>4</sup> At the time of posting of this document, the Program has operated under the AB 398 design changes for about a month, as AB 398 modified the post-2020 Program.

In order to set the caps for 2013 through 2020, CARB utilized GHG inventory data, as well as actual GHG reported data.<sup>5</sup> This ensured the impacts of the great recession were accounted for in the caps. In setting the 2021-2030 caps, CARB utilized extensive modeling that took into account the reductions delivered by companion policies as described in the 2017 Scoping Plan Update.<sup>6</sup> Importantly, CARB made adjustments in setting the 2021-2030 caps to permanently remove allowances from general circulation to reflect the fact that we would be below the 2020 target.<sup>7</sup>

### Distribution of Allowances

For each year of the Program, CARB creates vintage allowances equal to the cap, where one allowance equals one metric ton of carbon dioxide equivalent emissions. Figure 1 shows how allowances within each annual budget are distributed among four broad categories: (1) cost-containment, (2) utility allocation, (3) industrial allocation, and (4) auction. Cost-containment reserves and a price ceiling (red) reduce price volatility, if needed. Allocation to electric and natural gas utilities (green) is provided for the benefit of ratepayers, the end-users of electricity and natural gas. Industrial allocation (yellow) minimizes relocation of industrial emissions to regions without carbon-pricing policies. After allocating to cost-containment reserves, industrial facilities, and utilities, the remaining State-owned allowances (blue) are made available

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1 [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=200520060AB32](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200520060AB32)

2 [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201520160SB32](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32)

3 [http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201720180AB398](http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB398)

4 See also <https://ww2.arb.ca.gov/resources/documents/faq-cap-and-trade-program>.

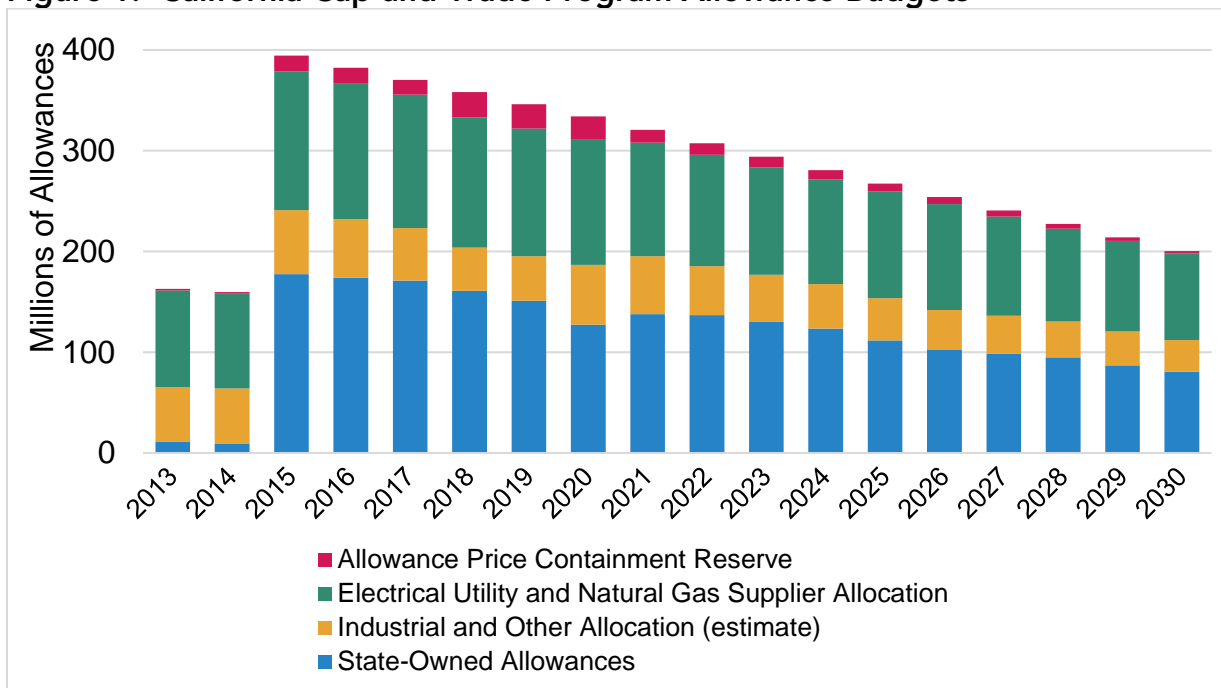
5 <https://ww2.arb.ca.gov/our-work/programs/mandatory-greenhouse-gas-emissions-reporting>

6 [https://ww3.arb.ca.gov/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf)

7 More on this can be found at <https://ww3.arb.ca.gov/regact/2018/capandtrade18/ct18398.pdf>.

for sale at auction, with proceeds going to the Greenhouse Gas Reduction Fund (GGRF).<sup>8</sup> The majority of allowances, including the State-owned allowances (blue) and most allowances allocated to electrical and natural gas utilities (green), are offered for sale at quarterly auctions.

**Figure 1. California Cap-and-Trade Program Allowance Budgets**



## Auctions

Once per quarter, CARB offers for sale a supply of allowances that can be purchased by covered entities and voluntary market participants. CARB offers current vintage allowances in a Current Auction, and separately offers a limited amount of future vintage allowances in an Advanced Auction.

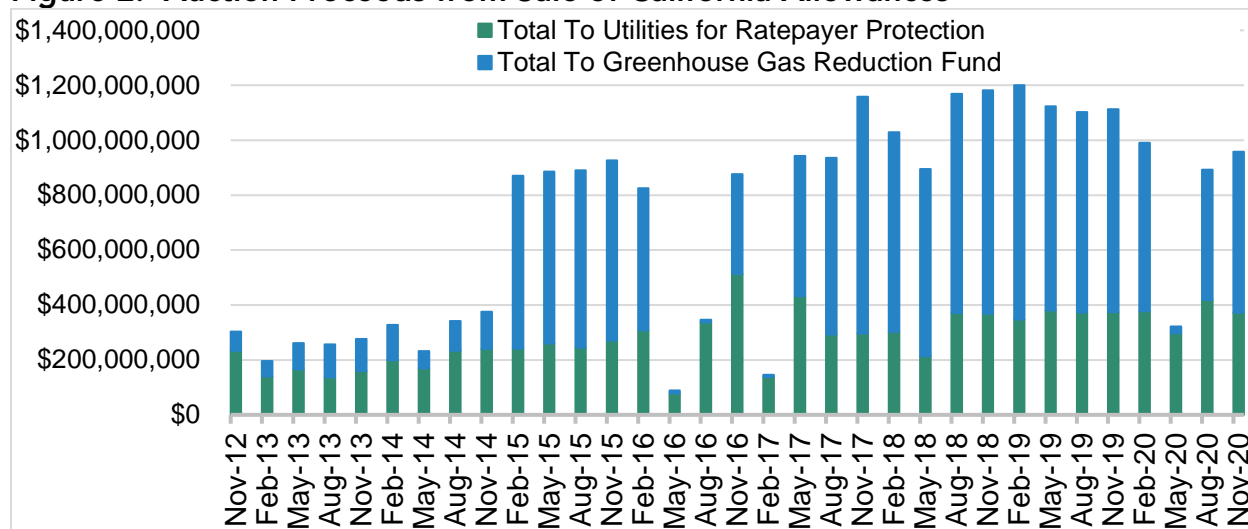
Figure 2 shows the proceeds generated through the sale of California allowances at each quarterly auction since the start of the Program. The proceeds shown in green in Figure 2 correspond to the portion of allowance budgets shown in green in Figure 1,<sup>9</sup> and the proceeds shown in blue in Figure 2 correspond to the State-owned allowances made available for sale at auction, also shown in blue in Figure 1. Allowances allocated to electric and natural gas utilities and then consigned to auction are sold first. This

<sup>8</sup> The Legislature appropriates auction proceeds to agencies to administer California Climate Investments programs that facilitate GHG emission reductions and provide additional economic, environmental, and public health benefits, consistent with existing legislative guidance. See <http://www.caclimateinvestments.ca.gov>.

<sup>9</sup> Some allowances allocated to utilities are not consigned to auction and do not generate any of the proceeds shown in Figure 2. These include some allowances allocated to publicly-owned electric utilities and a declining share of allowances allocated to natural gas utilities. For more detail, see <https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/allowance-allocation/edu-ngs>.

ensures ratepayer protections as required by AB 32 and prioritizes protecting ratepayers over the State receiving funds into the GGRF.

**Figure 2. Auction Proceeds from Sale of California Allowances**



The Program has a “self-ratcheting” mechanism that removes allowances that remain unsold at quarterly Current Auctions from the market during periods of low demand and slowly reintroduces them back during periods of higher demand. This ensures low demand for allowances does not suppress the carbon price signal. If a Current Auction is undersubscribed (i.e., some allowances remain unsold), the unsold allowances are withheld from auction until two consecutive auctions clear above the auction reserve (i.e., floor) price. Allowances that remain unsold after 24 months are permanently removed from general circulation and set aside for price containment.<sup>10</sup>

Figure 2 depicts how this mechanism works. Due to low demand during a period of political uncertainty of the Program and legislative discussions related to Program design, there were five consecutive undersubscribed auctions from February 2016 through February 2017. Some unsold allowances gradually returned to auction over the following two years, generating higher revenues in 2017 and 2018 than otherwise would have occurred. Approximately 37 million allowances remained unsold after 24 months and were moved to cost-containment reserves. More recently, the COVID-19 pandemic affected the world economy in 2020. Uncertainties surrounding the pandemic, including reduced economic activity, were reflected in Program auctions, where 32 million allowances went unsold in the May and August 2020 auctions. During 2016 and 2017, when political uncertainty affected the auctions, emissions from covered sectors did not decrease so demand persisted and the need to buy allowances was merely delayed. In contrast, during 2020, emissions actually decreased, which may mean there is no delayed demand that manifests itself in future auctions.

<sup>10</sup> Allowances that remain unsold in an Advanced Auction are withheld from circulation until they become current vintage.