

Updated December 2023

California ETS at a Glance

Years in operation	<p>First compliance period: 2013-14</p> <p>Second: 2015-17</p> <p>Third: 2018-20</p> <p>Fourth: 2021-23</p> <p>Fifth: 2024-26</p> <p>Subsequent compliance periods last three years.</p>
Overall cap & trajectory	The 2023 cap is 294.1 million tCO ₂ e. The cap declines by 13.4 million tCO ₂ e annually on average, reaching 200.5 million tCO ₂ e by 2030.
Target(s)	<p>California has a series of longer-term climate targets, including a 2030 state reduction target. Modeling scenarios for 40%, 48%, and 55% below 1990 levels with and without 85% out to 2045 are being considered.</p> <p>Cap-and-trade is operational through 2030. The role of cap-and-trade beyond 2030 will be determined through a regulatory process by the California Air Resources Board (CARB).</p>
Sectors covered	<ul style="list-style-type: none"> Electricity generation (including imports) Large stationary sources (including refineries, oil and gas production facilities, food processing plants, cement production facilities, and glass manufacturing facilities) that emit more than 25,000 tCO₂e annually Since 2015, distributors of transportation fuels, natural gas, and other fuels were also covered. Fuels exclusively for aviation or marine use are not covered.
GHGs covered	<ul style="list-style-type: none"> CO₂, CH₄, N₂O, SF₆, HFCs, PFCs, NF₃, and other fluorinated GHGs
# of covered entities	Approximately 600 entities have reporting obligations, and approximately 400 of those have compliance obligations
Allocation method	<p>California distributes allowances differently to each of the three covered sectors:</p> <ul style="list-style-type: none"> The industrial sector currently receives about 90% of its allowances for free based on output and efficiency, such that a producer is not penalized for making more goods and a producer who can make more goods with fewer emissions is rewarded. The utility sector receives free allowances but must sell those allowances at auction and use the revenue to benefit its ratepayers, primarily through a climate credit on utility bills. <p>The transportation sector does not receive free allowances and must purchase them, either via the quarterly state-administered auctions or the private secondary market.</p>
Trading rules	The program imposes holding and auction purchase limits that limit the overall quantity of allowances that entities can hold or purchase. Third-



	<p>party financial entities can also participate in trading if they meet certain prerequisites.</p>
Use of offsets and linking	<p>The use of offsets is limited to 8% of a covered entity's compliance obligation for the first three compliance periods, 4% for the fourth compliance period, and 6% for the fifth and sixth compliance periods. Another change to the post-2020 offset rules is that half of the offset limit quota must come from projects that provide direct environmental benefit to the state (DEBS). The California Air Resources Board has established rigorous US forestry, urban forestry, livestock, ozone depleting substances, mine methane capture, and rice cultivation compliance protocols.</p> <p>The program linked to Quebec's cap-and-trade system in January 2014. It was linked to Ontario in January 2018, but a de-link occurred in mid-2018 when the province abruptly scrapped its system following a change of governance. There have been discussions on linkage with Oregon or Washington if they were to establish cap-and-trade systems. Washington launched a Cap-and-Invest Program in 2023. However, the difference in program design does pose challenges to a linkage between the states' programs.</p> <p>On 12 October, Washington Ecology released a preliminary report on Cap-and-Invest linkage criteria with the WCI.</p>
Other features	<p>California has a complex series of price controls, including an Auction Reserve Price, which started at \$10 per tCO₂e in 2012 and increases 5% annually plus inflation. The 2023 auction price floor is \$22.21.</p> <p>Starting in 2021, a portion of allowances will be set aside in two reserves. The reserve will be triggered if the settlement of an auction reaches 60% of the first reserve trigger price. For 2023, the trigger price for the two reserves is \$51.92 and \$66.71 per tCO₂e, respectively, increasing by 5% plus inflation annually.</p> <p>A price ceiling has also been set starting in 2021, starting at \$65 per tCO₂e and rising by 5% plus inflation (\$81.50 in 2023). If this threshold is triggered, units from the reserve will be offered at the price ceiling.</p> <p>Banking is allowed; borrowing is not allowed.</p>
Penalties for non-compliance	<p>Annual Compliance Obligation: A covered entity must surrender allowances equivalent to 30% of emissions from the previous year within the current compliance period by 1 November annually.</p> <p>Triennial Compliance Obligation: A covered entity must surrender allowances equivalent to 100% of emissions for the compliance period, less allowances already surrendered.</p> <p>Failure to surrender on time results in an immediate surrender obligation equivalent to four times the missing balance.</p>
Use of revenues	<p>Some revenue is returned directly to utility ratepayers through the California Climate Credit on utility bills.</p> <p>The rest make up the Greenhouse Gas Reduction Fund (GGRF), which reduces greenhouse gas emissions through California Climate Investments (CCI), which emphasizes benefits to low-income and disadvantaged communities. To date, the CCI has appropriated more than \$6 billion in investments.</p>



Major Developments

On the legislative side, in 2023, two critical bills for the Cap-and-Trade, SB 12 and AB 9, were introduced and decided. Both Bills called for a 55% state GHG reduction target by 2030. After being referred to the assembly, AB 9 was amended in April to remove the 55% and instead require CARB to conduct a Cap-and-Trade review, with changes to take effect 1 January 2025. The amendment also called for CARB to align market supply with reductions in the Scoping Plan. However, on 1 June, AB 9 was moved to the inactive file without a floor vote. For SB 12, the bill failed to pass out of Committee in the Senate. Another bill, SB 253, which failed in the Assembly last year, albeit narrowly, passed the Senate and is with the Assembly Appropriations Committee. The bill requires US business entities doing business in California with annual revenue of USD 1 billion to publicly report their annual GHG emissions (Scopes 1, 2, and 3). Lastly, on 10 July, Governor Newsom signed the infrastructure streamlining package accelerating construction timelines on the projects necessary to achieving the state's ambitious climate and clean energy goals.

On the regulatory side, recall the draft Scoping Plan was released in November of 2022 and was adopted by CARB in December of the same year. The plan found technologically feasible, cost-effective measures resulting in a 48% reduction vs. 1990 levels in California's GHG emissions by 2030 on the path to carbon neutrality by 2045. With the main bills of note not passing this year, the focus was shifted to "pre-rulemaking" on the part of CARB and MELCC.

This will pave the way for formal rulemaking (typically takes 1-1.5 years to complete) and program re-adoption by each jurisdiction.

On 14 June, CARB and Quebec MELCC held two joint webinars. The first webinar highlighted the scope of the rulemaking and areas of coordination between the two jurisdictions. Each jurisdiction is expected to do its own rulemaking and modeling. California chose three scenarios for modeling: 1) 40% by 2030 with and without 85% out to 2045, 2) 48% by 2030 with and without 85% out to 2045, and 3) 55% by 2030 with and without 85% out to 2045. The inclusion of 2045 neutrality by CARB suggests a possible extension of the Cap-and-Trade Program, which is currently till 2030. In addition to the modeling scenarios, other areas specific to California include 1) studies on leakage, 2) coordination with CAISO on the Extended Day Ahead Market (EDAM), and 3) updates to offset protocols based on the latest science.

On 27 July, CARB held the second workshop for the year. At the workshop, tighter cap trajectories for all three 2030 cap scenarios were proposed. This is presented in Table 1. below. Multiple design choices were embedded in CARB's proposed caps. These include: 1) Cap revisions start in 2025 but based on cumulative reductions from a look-back period starting in 2021, 2) Cap-and-Trade assumed to be 77%, as opposed to 77.5% of state emissions, and 3) Cap-and-Trade assumed to be 77%, as opposed to 77.5% of state emissions. Developments from the workshop drove CCA prices to all-time highs.

Table 1: Summary of CARB's Proposed Adjusted Supply Scenarios: July 2023

Scenario	2021-2030 Cumulative Supply Mt	2030 Cap Mt
40% Current Regulation	2,650	200.5
40% Proposed July 2023	2,490	174.5
48% Proposed July 2023	2,340	138.2
55% Proposed July 2023	2,215	110.4

On 5 October, CARB held the third workshop for the year. Amendments such as the Cap-and-Trade post-2030 budgets, impacts of

smaller budgets on free allocations, electricity market, and biogenic exemptions were discussed. Decisions around where to retire



the allowances to implement the tighter caps have implications for allowances in circulation. Importantly, CARB's preliminary scenarios maintain the allowances in the Reserves and retire from auction/allocation accounts. The

Price Commentary

Historically, WCI allowances have mostly traded close to the program's floor price. However, around May 2019, there was a massive injection of funds into the program by financial investors. This pushed prices above historical averages (trading well above the floor). Towards the end of 2019 and the beginning of 2020, COVID-19 hit, causing investors to depart the program—prices of allowances plunged well below the floor. As the pandemic became more understood prices began to recover towards the end of the year and went on an upward trend.

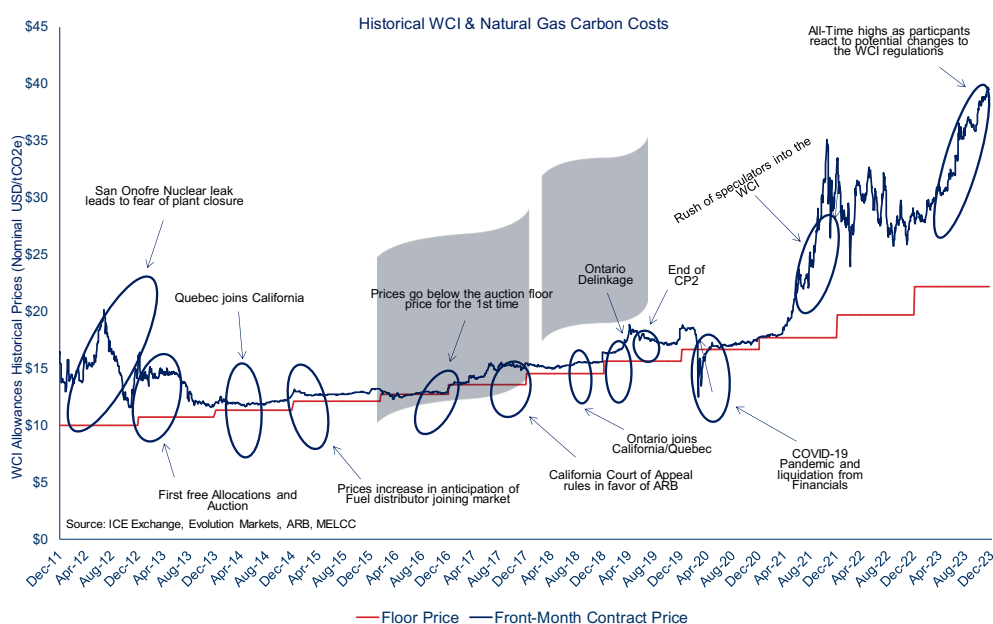
2021 saw a return of financial investors who pushed WCI allowance prices to historical highs at the time. Financial investors were attracted to the WCI allowances because climate-related investing has been gaining momentum. Furthermore, the creation of new investment products, such as carbon allowance-related ETFs, has allowed easy access to WCI allowances for many retail investors. All this has led to increased demand for WCI allowances.

2022 saw more volatility for allowances. At the beginning of the year, allowances dipped due to a unstable global situation with potential increases in interest rates and inflation. This

program changes will impact free allocations. The post-2030 caps are needed for modelling - it is uncertain if the amendments will extend the program.

has led to some de-risking of investor portfolios and some sell-off of risky assets. Allowances then recovered towards the end of April. In May, the WCI allowances price movement was more muted as participants weighed the potential impact on the program from the Scoping Plan and changes to Quebec's Cap-and-Trade rules.

Although 2023 saw some critical Cap-and-Invest bills, such as AB 9 moved to the inactive file without a floor vote and SB 12 failing to pass out of Committee in the Senate – both of which are seemingly bearish for allowances, prices of allowances reached new all-time highs amid regulatory updates from CARB. Prices were on an upward trend throughout the year with a few exceptions. Although the CARB workshop in June led to price increases, the workshop on 27 July caused a surge in allowance prices. As investor interest continues in the program, the price of allowances (front month) broke the USD 37 mark for the first time in history on 12 September. The highest price recorded for allowances (front month) before 2023 was USD 34.5 in November 2021. Continued speculative interests in the regulatory updates have pushed CCA prices close to USD 40 by the end of 2023.



Useful Links

[ICAP California ETS Fact Sheet](#)

[Use of Auction Revenue](#)

[IEMAC Home Page](#)

[California Environmental Justice Alliance Home Page](#)

References

[California Air Resources Board Cap-and-Trade Home Page](#)

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