Originally published December 2023. Updated April 2025.

Reforming California's Cap and Trade Program Policy Brief

Analysis and Recommendations

the climate center

The Climate Center, originally published December 2023. Updated April 2025.

Reforming California's Cap-and-Trade Program: Analysis and Recommendations

The Climate Center Policy Guidance

Authors: Jasmin Ansar and Barry Vesser

Table of Contents

Executive Summary

The California Cap and Trade Program plays a pivotal role in the state's efforts to reduce greenhouse gas emissions. The program is currently under review to incorporate updated emissions inventory data and the increased emissions reduction targets adopted in the 2022 Scoping Plan. The revised regulations will determine emissions targets, budgets, and potential reforms for the 2026 to 2030 compliance period. In addition, the state legislature must reauthorize the program to continue beyond 2030, when current program authority expires.

This review period provides a critical window of opportunity to address and correct the Cap and Trade program's recognized shortcomings. In this updated policy brief (originally published in December 2023 and updated in April 2025), we address how to make the program more effective at advancing California's climate goals and improving affordability. Increasing energy

costs are a challenge for the Cap and Trade program, as high carbon pollution prices will increase fossil fuel prices. This updated policy brief includes discussion and recommendations to ensure energy is affordable for all Californians..

The Climate Center recommends four essential reforms to strengthen California's Cap and Trade Program. These improvements will enable the program to more effectively advance state climate goals, increase affordability for all Californians — especially working-class and lower-income communities — and build resilience to increasing climate extremes.

Summary of Recommended Reforms:

1. **Eliminate free allowances that subsidize the fossil fuel industry and increase climate pollution.** We recommend a reduction and eventual phaseout of the subsidies provided to oil and gas corporations through free allowances. Redirecting these funds will enable greater investment in carbon-free technologies and help address affordability challenges during the transition to a clean energy economy.

2. **Implement progressive cash rebates**. We urge using Cap and Trade revenue to more effectively address energy affordability via direct, progressive cash rebates prioritizing low- and middle-income Californians. We recommend policymakers restructure the existing climate credit to increase its impact for those who need it the most.

3. **Eliminate offsets as compliance instruments.** We recommend eliminating or phasing out the use of offsets as compliance instruments. Instead, additional revenue generated for the Greenhouse Gas Reduction Fund (GGRF) should be directed toward cost-effective emissions reduction projects within California, such as those focused on natural and working lands. To further protect communities overburdened by pollution — particularly those in non-attainment areas — we also recommend placing facility-level emissions caps to ensure that local air quality continues to improve.

4. **Establish an Emissions Containment Reserve.** We urge policymakers to adopt an Emissions Containment Reserve (ECR), which addresses the oversupply of allowances by automatically withholding them when prices fall below a set threshold. An ECR would restore balance to the carbon market and reinforce the price signal needed to drive emissions reductions.

Our original recommendations published in December 2023 included phasing out free allowances and reinvesting the increased revenue, establishing an Emission Containment

Reserve (ECR)[1] to address the oversupply of compliance instruments, phasing out offsets as compliance instruments, and addressing environmental justice concerns about co-pollutants. In this updated policy brief, we extend our analysis to include the affordability opportunities and environmental justice impacts of these market-based mechanisms.

First, we recommend eliminating or phasing out free allowances in the Cap and Trade Program. The current program structure subsidizes major polluters, including oil and fossil gas corporations. In 2024, for example, the combined petroleum refining[2] and crude petroleum and fossil gas extraction sectors were given approximately 24 million free allowances,[3] amounting to an annual subsidy of more than $1 billion. The subsidies helped fossil fuel corporations post record profits.[4] Any pollution reduction policy should be structured to minimize or eliminate subsidies for the very activities it aims to regulate and reduce. California must stop subsidizing the oil and gas industry via free allowances, as these allowances distort the incentives for decarbonizing this sector.

Second, we continue to advocate for removing the offset provision that allows prescribed amounts of offsets to count as compliance instruments. The use of offsets have allowed polluters to continue operations with adverse co-pollutants in frontline communities.[5] We recommend replacing offsets with a community climate investment fund that issues credits at a fixed price. These funds can be specifically directed to address local climate and environmental justice concerns.

Finally, we recommend establishing an Emissions Containment Reserve (ECR) to correct the oversupply of allowances in the Cap and Trade market. In the February 2025 Cap and Trade auction, allowance prices fell relative to the previous auction in November 2024.[6] Decreasing carbon prices reflect the continued oversupply of allowances as well as market uncertainty around new regulations expected in 2025 and the outcome of the reauthorization efforts. This updated information confirms our earlier recommendation for an ECR as a critical reform to the Cap and Trade program.

Additional analysis by Resources for the Future[7] and others show that the lack of an ECR has imposed significant costs (estimated at $1.5 billion between 2023 and 2024) on consumers with repercussions for energy affordability. California policymakers must correct this flaw in the

[1]An Emission Containment Reserve (ECR) automatically decreases the quantity of allowances if allowance prices fall below a specified threshold.
[2]A very small portion of the allowances given to the refining sector go toward hydrogen production.
[3]https://ww2.arb.ca.gov/sites/default/files/2023-12/nc-v2024%20Public%20Allocation%20Summary.pdf
[4]https://www.nrdc.org/bio/zanagee-artis/big-oil-made-billions-amidst-hottest-year-record
[5]https://carbstage.arb.ca.gov/sites/default/files/2024-03/CVAQ%20Handout%20for%20Senate%20Cap%20and%20Trade%20Rulemaking%20Hearing%202.13.24.pdf
[6]https://blogs.edf.org/climate411/2025/02/26/delay-and-uncertainty-around-californias-core-pollution-cutting-program-is-costing-the-state-millions/
[7]https://www.rff.org/publications/issue-briefs/harnessing-carbon-value-to-lower-costs-in-california/

Cap and Trade market design. We support the recommendation put forward in the 2024 Independent Emissions Advisory Committee (IEMAC) report[8] and endorse the introduction of an ECR with an allowance price trigger midway between the price floor and the reserve price threshold (around $40).

Many proposed Cap and Trade reforms aim to correct market design failures. By implementing these reforms, carbon prices will better reflect the true damage costs[9] of carbon-emitting fuels. However, higher carbon prices will also raise energy costs, particularly for fossil fuels. This presents a political challenge, as increased energy costs disproportionately impact low- and middle-income consumers. To address this issue, we propose additional strategies to mitigate the regressive effects of carbon-related energy cost increases.

The current Cap and Trade program addresses affordability through a rebate system. Most of the revenue generated from the sale of free utility allowances is returned to customers once or twice a year as lump-sum "climate credits" applied to their utility bills. However, this rebate system has several shortcomings. Namely, flexibility is limited for consumers, there is little transparency around how rebates are issued, and the current rebate amounts are insufficient to offset rising energy costs.[10]

We recommend introducing progressive, direct rebates. We also support restructuring climate credit allocations to provide higher rebates for low- and moderate-income households, as suggested by researchers at Stanford's Woods Institute for the Environment.[11] In effect, this would redistribute and increase the share of designated funds to target specific communities in need, easing their financial burden.

These additional reforms can enhance the effectiveness of the Cap and Trade Program by making energy costs more equitable while maintaining strong incentives for emissions reductions.

[8] https://calepa.ca.gov/wp-content/uploads/2025/02/2024-ANNUAL-REPORT-OF-THE-IEMAC-final.pdf
[9] https://www.ucdavis.edu/climate/news/high-cost-carbon#:~:text=The%20study%2C%20published%20today%20in,estimates%20currently%20used%20for%20policymaking.%E2%80%9D
[10] Rebates are only one tool for making energy more affordable for all Californians. For additional recommendations on achieving long-term affordability, see The Climate Center's paper, *Envisioning the Grid for the Future*: https://theclimatecenter.org/community-energy-resilience/envisioning-the-california-grid-for-the-future/
[11] https://woods.stanford.edu/sites/woods/files/media/file/cepp_policy_brief_climate_credit_reallocation.pdf

Introduction

California's Cap and Trade Program, launched in late 2012, is a key component of the state's broader strategy to reduce greenhouse gas emissions. The program uses a market-based approach that sets annual limits — or "caps" — on emissions, which decrease over time[12] until a final emissions target is met.[13] Companies that emit greenhouse gases are required to purchase compliance instruments called allowances, with each allowance representing one ton of carbon dioxide equivalent (CO2e) emissions.[14]

Allowances are distributed annually to carbon-emitting companies, primarily through quarterly auctions held by the California Air Resources Board (CARB), or via trading in a secondary market. This trading mechanism determines the market price of carbon emissions and provides flexibility for companies to manage their emissions efficiently.

The program covers entities emitting at least 25,000 metric tons of CO2e per year. These include a broad range of sectors, such as electricity generation (including imported electricity), cement production, oil and gas refining, fuel distribution (fossil gas and petroleum), and other industrial operations. Together, these sectors account for approximately 85 percent of California's total greenhouse gas emissions.

To protect emissions-intensive, trade-exposed (EITE) industries from leaving California to move to non-capped states, CARB provides these facilities, along with electric and gas utilities, with free allowances. Utilities, however, must sell their allowances and return the revenue to their customers. This strategy is intended to prevent "leakage," in which companies might relocate to states with no such regulations to avoid paying for emissions. For all other companies, allowances must be purchased at auction, with proceeds directed to California's Greenhouse Gas Reduction Fund (GGRF). As mandated by SB 535 and AB 1550,[15] at least 35 percent of GGRF dollars are allocated to benefit disadvantaged and low-income communities.[16]

CARB is the lead agency responsible for planning and enforcing California's emissions reduction strategies. Notably, the state met its AB 32 goal of returning to 1990 emissions levels by 2020 ahead of schedule. This achievement demonstrated that strong climate policies can promote economic growth.

[12]The cap declines about 5 percent annually through 2030.
[13]These targets include at least a 40 percent reduction from 1990 levels by 2030 (SB 32), an 85 percent reduction from 1990 levels by 2045, and statewide carbon neutrality by 2045 (AB 1279).
[14]https://ww2.arb.ca.gov/sites/default/files/2025-01/Cap_and_Trade_Program_Quick_Facts.pdf
[15]https://calepa.ca.gov/envjustice/ghginvest/
[16]https://www.caclimateinvestments.ca.gov/about-cci

Every five years, CARB releases a comprehensive Scoping Plan that outlines how the state will achieve its emissions reduction goals. The 2017 Scoping Plan detailed the strategy to reduce emissions by 40 percent below 1990 levels by 2030.[17] According to that plan, the Cap and Trade Program was expected to contribute approximately 38 percent of the necessary reductions, with the remainder coming from direct regulations such as the Low Carbon Fuel Standard and the Renewable Portfolio Standard.

In November 2022, CARB adopted an updated Scoping Plan[18] that reaffirmed the SB 32 (2016) emissions target of a 40 percent reduction by 2030. The 2022 Scoping Plan also analyzed pathways to accomplish emission reductions mandates of at least 85 percent from 1990 levels, as specified in AB 1279. The plan evaluated various reduction pathways and ultimately selected a preferred scenario aiming for a 48 percent cut by 2030. However, the 2022 Scoping Plan drew criticism from multiple stakeholders, including the Legislative Analyst's Office (LAO),[19] the Independent Emissions Market Advisory Committee (IEMAC),[20] and the Environmental Justice Advisory Committee (EJAC).[21]

The plan lacks a clear and comprehensive roadmap to guide the achievement of its ambitious goals. Without detailed implementation policies, uncertainty remains about whether these targets can be met within the prescribed timelines.

After adopting the 2022 Scoping Plan, CARB conducted six workshops and two community meetings in 2023 and 2024 to discuss potential amendments to the Cap and Trade regulations.[22] These sessions explored scenarios for achieving the 2030 and 2045 emissions targets and outlined pathways to recalibrate the emissions cap to reflect updated inventory data. Other proposed changes include removing allowances from future budgets, updating offset protocols, preventing market manipulation, and adjusting cost containment trigger prices. Public feedback from these workshops will inform the final set of regulatory amendments.

During a workshop in July 2024, CARB announced that a formal rulemaking proposal would be released by late summer. However, this process has been delayed, and the timing of the final proposed regulation remains unclear as of the publication of this policy brief. Once the proposal is issued, it will undergo a 45-day public comment period before being voted on by CARB. This delay has created uncertainty in the carbon market, leading to a decline in the price

[17] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2016/capandtrade16/ctfinro.pdf?_ga=2.157555954.993336411.1699898441-1038273819.1664211588
[18] https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp-es.pdf
[19] https://www.lao.ca.gov/handouts/resources/2024/Cap-and-Trade-Issues-021324.pdf
[20] https://calepa.ca.gov/wp-content/uploads/sites/6/2023/02/2022-ANNUAL-REPORT-OF-THE-INDEPENDENT-EMISSIONS-MARKET-ADVISORY-COMMITTEE-2.pdf
[21] https://ww2.arb.ca.gov/sites/default/files/2023-10/EJAC%20Presentation.pdf
[22] https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cap-and-trade-meetings-workshops

of carbon allowances and a reduction in GGRF revenue.[23] There is hope that CARB will respond to these developments and issue a final rulemaking sometime in 2025 to restore market confidence.

This policy brief identifies four major problem areas within the current Cap and Trade Program and offers potential reforms. These recommendations draw from the insights of the IEMAC, LAO, and environmental justice organizations. Where relevant, we also discuss reform strategies implemented in other states and countries.

1. Eliminate Free Allowances That Subsidize Climate Pollution

California must stop subsidizing carbon pollution.

In California, approximately 50 percent of carbon allowances[24] are distributed for free to industrial emitters that are considered at risk of leakage — the possibility that they might relocate to avoid regulation. These free allowances also extend to electric and gas utilities, effectively subsidizing industries that contribute significantly to greenhouse gas emissions.

These subsidies represent large financial benefits for industrial polluters, particularly those in the oil and gas sectors. In 2024, for example, the petroleum refining[25] and crude petroleum and fossil gas extraction industries collectively received approximately 24 million free allowances,[26] amounting to a subsidy of more than $1 billion. This financial support allowed oil companies to post record profits during the hottest year on record,[27] raising the question of whether this policy still serves the public interest.

The justification for these subsidies has historically been leakage risk — the concern that oil and gas corporations might move operations to other jurisdictions with fewer regulations. However, this risk is highly debatable.[28] CARB's own 2010 analysis[29] suggested that the leakage risk for these sectors was not particularly high, challenging the assumption that these free allowances are necessary to prevent economic disruption.

---

[23] https://www.spglobal.com/commodity-insights/en/news-research/latest-news/energy-transition/071124-delayed-california-carbon-market-regulation-changes-pressure-carbon-prices-lower
[24] https://ww2.arb.ca.gov/sites/default/files/2021-01/CT_Allowance_FactSheet_Jan2021.pdf
[25] A very small portion of the allowances given to the refining sector go toward hydrogen production.
[26] https://ww2.arb.ca.gov/sites/default/files/2023-12/nc-v2024%20Public%20Allocation%20Summary.pdf
[27] https://www.nrdc.org/bio/zanagee-artis/big-oil-made-billions-amidst-hottest-year-record
[28] https://calepa.ca.gov/wp-content/uploads/2018/09/6e.-IEMAC_Meeting_Materials_9-21-18__Fowlie_and_Cullenward_Report_on_Emissions_Leakage.pdf
[29] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2010/capandtrade10/capv4appk.pdf

As California reforms and reauthorizes its Cap and Trade Program, policymakers must reconsider how, and if, to mitigate leakage risk. We contend that the justification for these subsidies is flawed and that continued support for polluting industries only delays the transition to cleaner alternatives. Rather than maintaining the status quo, California should lead by example, encouraging a shift away from fossil fuel industries and investing in non-polluting, sustainable businesses. To avoid price spikes and to minimize risk of leakage, these allowances could be phased out over a four-year period, giving industry and consumers time to adjust.

We advocate for redirecting allowance revenues from the oil and gas sectors into decarbonization programs, funding clean technology development, job creation, and economic transformation. These investments would not only help California meet its climate goals, but also generate new business and employment opportunities that could replace and even exceed any losses from sectoral leakage.

Any pollution reduction policy, including Cap and Trade, must be structured to minimize or eliminate subsidies for the very activities it aims to regulate and reduce. The climate emergency demands stronger action[30] and CARB must adopt policies that end subsidies for the oil and gas industry while accelerating the transition to a cleaner, more sustainable economy.

Problem

Free allowances are given to emissions-intensive, trade-exposed (EITE) firms, and electric and gas utilities. These make up about 50 percent of all the allowances in the market. This is a substantial subsidy to polluting firms, which dilutes incentives for carbon reductions in these sectors.

Proposed Reform

Eliminate free allowances for the oil and gas industry.

[30] https://scientistswarningonfossilfuels.org/

2. Implement Progressive Cash Rebates

The current Cap and Trade Program addresses affordability through a rebate system. Most of the revenue generated from the sale of free utility allowances is returned to customers once or twice a year as lump-sum "climate credits" applied to their utility bills. In addition to rebates for residential customers, around 20 percent of these utility free allowances are used to subsidize businesses and industry, including approximately $38 million a year to the oil and gas industry. As we have recommended elsewhere, California must phase out all state subsidies to polluters. These industry-allocated funds should be redirected as residential customer rebates or a reformed climate credit.

There are several shortcomings in the current rebate system, both in terms of dollar amounts and the distribution method.

One major issue is limited flexibility. Currently, rebates appear as credits on utility bills, restricting how consumers can use these funds. Many households have pressing financial needs — including food, housing, gasoline, and healthcare — but cannot allocate the rebate money to meet their needs. Unlike Canada's carbon tax system, which issues rebates directly as cash payments, California's Cap and Trade rebate structure limits consumer choice. We recommend the use of direct cash payments to consumers rather than utility bill credits.

Another challenge is the lack of transparency. Because rebates are distributed through utility companies rather than directly from the state, customers may not realize that these funds originate from carbon pricing revenues. This lack of clarity reduces public understanding of Cap and Trade's intent and benefits. Our recommended direct cash payments (issued by the state), will lead to greater consumer understanding and appreciation of where these rebate dollars come from.

Finally, rebate amounts are insufficient to offset rising energy costs. Electricity prices, particularly those charged by investor-owned utilities, have doubled over the past decade.[31,32] The current climate credit provides only minimal relief. We recommend increasing funds used for this purpose. One approach is the introduction of progressive, direct rebates. We also support restructuring climate credit allocations to provide higher rebates for low- and moderate-income households, as suggested by researchers at Stanford's Woods Institute for

[31] https://revel-energy.com/rising-electricity-costs/
[32] https://www.siliconvalley.com/2024/07/29/electric-bills-have-essentially-doubled-over-the-past-decade/

the Environment.[33] In effect, this would redistribute and increase the share of designated funds to target specific communities in need, easing their financial burden.

Problem

Current "rebates" are hidden and not enough to address rising energy costs, especially for working-class and lower-income Californians. When issued as credits on utility bills, these rebates offer limited flexibility and the source of their funding is obscured to the consumer.

Proposed Reform

Implement **progressive, direct cash payments** that prioritize working-class and lower-income Californians, while also increasing the total funds disbursed.

3. Eliminate Offsets As Compliance Instruments

In California, the use of a limited number of offsets is permitted as a means of compliance under the Cap and Trade Program. This policy is designed to provide financial flexibility and cost containment for companies with emission reduction obligations. Firms can reduce compliance costs by using offsets in place of purchasing more expensive allowances at auction.

Between 2021 and 2025, companies may use offsets to cover up to 4 percent of their annual compliance obligations, with the limit increasing to 6 percent from 2026 to 2030. Offsets are intended to deliver emissions reductions at a lower cost and, importantly, help finance carbon reduction projects and related activities. Offsets have drawn significant criticism, particularly from the environmental justice community and their allies. Offsets enable polluting industries, such as oil refineries, to continue carbon-intensive operations while using offsets to meet their compliance obligations. This has often resulted in sustained or increased levels of co-pollutants

[33] https://woods.stanford.edu/sites/woods/files/media/file/cepp_policy_brief_climate_credit_reallocation.pdf

in frontline communities, areas that already struggle with poor air quality and frequently fail to meet clean air standards.[34]

There is also growing evidence that offsets have not delivered the level of emissions reductions they promise. Studies indicate that many offset projects lack permanence, additionality, and long-term effectiveness.[35] In practice, offset protocols are not rigorous enough, prompting calls for substantial updates to ensure credibility and impact.[36]

Additionally, the way offsets currently function in California contributes to the overall oversupply of allowances in the market. Offsets effectively increase the annual pool of available allowances, reducing scarcity and potentially weakening the cap's integrity. In contrast, Washington's cap-and-invest program counts offsets below the cap, meaning their use reduces the overall allowance pool and maintains the program's environmental ambition. California could adopt a similar approach to improve the effectiveness of its offset policy.

Oregon has taken a different route by replacing offsets with a Community Climate Investment (CCI) fund, priced at $129 per credit as of the publication of this brief.[37] This mechanism allows entities to purchase a limited number of credits at a fixed rate, directing funds into climate-related projects. Analysis by Burtraw and Roy[38] suggests that California could benefit from a similar approach: replacing offsets with increased and dedicated funding for its Greenhouse Gas Reduction Fund (GGRF). Targeted state programs, such as the AB 1757 nature-based solutions climate targets,[39] should receive increased funding through a CCI-style system, or through a direct redirection of offset revenues. Meanwhile, New York, which is developing its own cap-and-invest program, has indicated that it may exclude offsets entirely.[40]

Note that some of California's offsets have benefited local communities. For example, Tribes and Alaskan Native communities have utilized offsets to fund local initiatives. The Yurok Tribe used revenue from earned offsets to repurchase tracts of ancestral land.[41]

Nonetheless, given the mounting challenges and weaknesses associated with California's current offset system, reform is necessary. One possible solution is to adopt a model similar to Oregon's investment fund approach. Another is to phase out offsets altogether and direct

[34] https://peri.umass.edu/component/k2/item/1740-not-so-clear-a-comment-on-do-environmental-markets-cause-environmental-injustice
[35] https://www.biorxiv.org/content/10.1101/2021.04.28.441870v1.full
[36] https://calepa.ca.gov/wp-content/uploads/2025/02/2024-ANNUAL-REPORT-OF-THE-IEMAC-final.pdf
[37] https://www.oregon.gov/deq/ghgp/cpp/pages/community-climate-investments.aspx
[38] https://media.rff.org/documents/IB_25-02_updated_3.13.2025_bXnHIVH.pdf
[39] https://resources.ca.gov/initiatives/expanding-nature-based-solutions
[40] https://www.nyserda.ny.gov/About/Newsroom/2023-Announcements/2023-1-10-Governor-Hochul-Unveils-Cap-and-Invest-Program
[41] https://www.newyorker.com/news/dispatch/how-carbon-trading-became-a-way-of-life-for-californias-yurok-tribe

resulting GGRF revenues toward cost-effective emissions reductions within California, such as through natural and working lands programs.[42]

Problem

Offset protocols in California lack rigor and allow for increased pollution in frontline communities. Claimed emissions reductions are frequently not permanent, additional, or durable.

Proposed Reforms

- **Phase out the use of offsets in California's Cap and Trade Program.**
- **Redirect additional GGRF revenues toward cost-effective, in-state emissions reduction programs,** such as the AB 1757 nature-based solutions climate targets**.**
- If offsets are retained, **structure them to count below the cap**, as is done in Washington.
- Introduce facility-level caps to mitigate air pollution[43] in non-attainment areas and **better protect frontline communities.**

4. Establish an Emissions Containment Reserve

California policymakers must reduce the oversupply of allowances to ensure the carbon market works as intended.

A key issue with the California Cap and Trade Program is the mismatch between the fixed, annual supply of allowances and the inherently uncertain demand for them. The California Air Resources Board (CARB) determines the supply through its Scoping Plan, but demand can fluctuate due to factors like weather conditions, economic changes, pandemics, and the success of emissions reduction efforts via direct regulations. Historically, this has led to a

[42] https://www.netzerocalifornia.org/blog/analyzing-californias-greenhouse-gas-reduction-fund
[43] https://sbud.senate.ca.gov/sites/sbud.senate.ca.gov/files/CVAQ%20Handout%20for%20Senate%20Cap%20%20Trade%20Rulemaking%20Hearing_2.13.2024_.pdf

consistent oversupply of allowances in the carbon market, which in turn drives down the price of carbon pollution. A lower carbon price reduces the financial incentive for businesses and industries to reduce emissions, undermining the program's effectiveness.

One contributor to this persistent oversupply is the ability to bank allowances.[44] These compliance instruments do not expire and can be saved for future use.[45] While the intent of this provision is to help businesses manage potential price spikes, in practice, California's allowance prices have remained close to or at the floor price throughout most compliance periods. As a result, the banking system has exacerbated the oversupply problem. To correct this imbalance and restore market functionality, CARB needs to recalibrate the overall supply of compliance instruments to better match demand.

This oversupply challenge is not unique to California. Other emissions trading systems, such as the Regional Greenhouse Gas Initiative (RGGI) in the Northeast and Mid-Atlantic and the European Union Emissions Trading System (EU ETS), have faced similar issues. In response, both programs implemented mechanisms to remove excess allowances from circulation to stabilize the market and support carbon pricing.

California's Cap and Trade Program, however, lacks a similar mechanism to reduce the supply of allowances when prices fall too low. Many modern cap and trade systems now incorporate an Emissions Containment Reserve (ECR),[46] which automatically withholds allowances if prices dip below a designated threshold. Adding an ECR to the California program would introduce necessary flexibility, helping to correct market imbalances, raise carbon prices, and create stronger incentives for low-carbon innovation. It could also generate additional revenue for the GGRF, which supports state-level emissions reduction initiatives, critical as the state faces budget deficits and concerns around the rising cost of energy. Recent analysis by Resources for the Future[47] estimates that if California had implemented an ECR starting in 2023, the state could have realized an additional $1.5 billion in benefits for ratepayers and the GGRF (in 2023 dollars). This illustrates the substantial value currently being lost due to the existing market design. The IEMAC 2024 report[48] proposes setting the ECR threshold price at the midpoint between the current floor price and the reserve price trigger, providing a clear and balanced framework for implementation.

[44]There are some holding limits for each entity and this gives the maximum number of allowances that an entity may hold at one time. This site gives the formula and there are limited exemptions.
https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/holding_limit.pdf
[45]Note that there are no limits on the number of offsets that can be banked and held. These limits have not prevented the buildup of excess allowance supply.
http://www.nearzero.org/wp/2018/12/13/holding-limits-dont-constrain-banking-in-californias-cap-and-trade-program/
[46]An emissions containment reserve (ECR) would remove emission allowances from the Cap and Trade Program when prices are low.
[47]https://www.rff.org/publications/issue-briefs/harnessing-carbon-value-to-lower-costs-in-californ
[48]https://calepa.ca.gov/wp-content/uploads/2025/02/2024-ANNUAL-REPORT-OF-THE-IEMAC-final.pdf

Currently, California's Cap and Trade Program only increases allowance supply through the Allowance Price Containment Reserve (APCR)[49] when prices rise above certain thresholds. AB 398 revised the APCR by creating a two-tier price trigger system that releases allowances from reserves and establishing a hard price ceiling. These provisions are intended to limit excessive costs for market participants. However, they have never been triggered, and details about how they would function in practice remain unclear.

Another ongoing area of reform involves updating the supply of future annual allowances to reflect revised emissions forecasts based on new inventory data. CARB is developing ways to implement these data amendments and the updated rules governing these changes are expected to be finalized later in 2025. Aligning allowance supply with more accurate emissions data will improve the program's effectiveness and integrity.

While the practice of banking allowances offers financial flexibility for market players to manage potential price increases, it complicates the tracking and monitoring of allowance supply within the program. This issue has been particularly problematic in California. One possible reform is to retire unused, banked allowances after three years — as is done in the RGGI — to address the buildup of allowances. Another would be to sunset this provision to prevent the banking of future allowances altogether.

Problem

California has an oversupply of allowances that lower the price of carbon and undercut market incentives to reduce pollution. This oversupply **puts the state at risk of missing its emissions reduction targets for 2030 and beyond.**

Proposed Reform

Institute an Emission Containment Reserve (ECR), which automatically lowers allowance supply in response to low allowance prices and ends the practice of banking allowances.

[49]The Allowance Price Containment Reserve (APCR) is a soft price cap that increases the supply of allowances if the price goes above a critical trigger point. There is also a hard price ceiling that was set at $81.50 in 2023. https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cost-containment-information

Conclusion

In conclusion, the California Cap and Trade Program remains a vital strategy in the state's toolbox to reduce greenhouse gas emissions. However, its long-term success depends on recognizing and addressing key weaknesses revealed through years of real-world implementation. The program is currently undergoing review, with new regulations in development to guide its operations for the 2025–2030 period. At the same time, the state legislature is considering whether to reauthorize, reform, and extend the program beyond its current timeline.

This policy brief outlines four essential reforms to strengthen the Cap and Trade Program and ensure it effectively supports California's climate goals.

1. **Eliminate free allowances that subsidize the fossil fuel industry and increase climate pollution.** We recommend a reduction and eventual phaseout of the subsidies provided to oil and gas corporations through free allowances. Redirecting these funds will enable greater investment in carbon-free technologies and help address affordability challenges during the transition to a clean energy economy.

2. **Implement progressive cash rebates**. We urge using Cap and Trade revenue to more effectively address energy affordability via direct, progressive cash rebates prioritizing low- and middle-income Californians. We recommend policymakers restructure the existing climate credit to increase its impact for those who need it the most.

3. **Eliminate offsets as compliance instruments.** We recommend eliminating or phasing out the use of offsets as compliance instruments. Instead, additional revenue generated for the Greenhouse Gas Reduction Fund (GGRF) should be directed toward cost-effective emissions reduction projects within California, such as those focused on natural and working lands. To further protect communities overburdened by pollution — particularly those in non-attainment areas — we also recommend placing facility-level emissions caps to ensure that local air quality continues to improve.

4. **Establish an Emissions Containment Reserve.** We urge policymakers to adopt an Emissions Containment Reserve (ECR), which addresses the oversupply of allowances by automatically withholding them when prices fall below a set threshold. An ECR would restore balance to the carbon market and reinforce the price signal needed to drive emissions reductions.

While these reforms address urgent issues within the current framework, it is also critical to look beyond 2030. Under AB 1279, California is legally committed to achieving net-zero greenhouse gas emissions by 2045.[50] To meet this ambitious target, the state must not only adopt the recommended reforms, but also extend the Cap and Trade Program — or a similarly effective policy — well past 2030. Additionally, California policymakers should consider accelerating emissions reduction targets in response to the escalating climate crisis.

Extending and strengthening the Cap and Trade Program beyond 2030 should be a top policy priority. Doing so will provide a consistent and credible price signal that reducing emissions is economically advantageous, thereby encouraging investment in emerging, carbon-free technologies and positioning California as a global leader in climate action.

[50] https://a66.asmdc.org/press-releases/20220916-governor-newsom-signs-assemblymember-muratsuchis-ab-1279-california-climate