Public Comment Letter to the California Air Resources Board
2026 Cap-and-Invest Initial Statement of Reasons

Clean and Prosperous (CAP) California is an environmental economics nonprofit based in California focused exclusively on the cap-and-invest program. We examine carbon pricing through an economic lens by synthesizing scientific evidence from the academic literature and using economic thinking to produce new research. We believe that economic thinking facilitates smart designs for the cap-and-invest program so that climate action can be leveraged to solve a variety of statewide problems such as the affordability crisis.

We are grateful for the opportunity to submit this letter to the California Air Resources Board (CARB). We believe the Initial Statement of Reasons (ISOR) strikes a reasonable balance between ambition and affordability. Our comments address these dual goals by focusing both on opportunities to enhance pre-2030 climate ambition and to lower pre-2030 electric utility bills by expanding consigned allowances for the California Climate Credit (CCC).

1. Opportunities to Enhance Pre-2030 Climate Ambition

    a. Fast-tracking Offsets Under the Cap

Assembly Bill (AB) 1207 requires CARB to implement a policy of placing offsets under the cap (OUTC). At a high level, this policy requires CARB to remove and subsequently retire an allowance from circulation for each offset used for compliance beginning with 2028 allowance budgets. The result of OUTC is increased environmental ambition, because each offset used for compliance is effectively matched by a reduction in the allowance supply. If OUTC is implemented beginning in 2027, rather than 2028 as proposed, then an additional estimated 15 million tons of allowances would be removed from circulation in the sixth compliance period. In short, CARB has an opportunity to achieve greater pre-2030 ambition by beginning implementation of OUTC one year earlier than currently planned.

    b. Proportional Pre-2030 Allowance Removals

The 118 million removals that the ISOR proposes between 2027 and 2030 is “backloaded” such that few allowances are removed near 2027 and more allowances are removed toward 2030. Specifically, by year: 2027 (14 million allowances removed, 6 percent below original caps); 2028 (27 million allowances removed; 12 percent below original caps); 2029 (35 million allowances, 16 percent below original caps); and, 2030 (42 million allowances removed, 21 percent below original caps).

From an economic perspective, earlier tightening of allowance supply would strengthen near-term price signals and encourage regulated entities to invest sooner in emissions reductions rather than delaying abatement until later years. Stronger early signals could also reduce the risk of abrupt price adjustments later in the decade because the trajectory of compliance costs would be smoother and the supply contraction in 2029–2030 would be less abrupt.

From a climate targets perspective, earlier tightening of allowance supply would better align covered emissions with 2030 targets reinforced by Assembly Bill (AB) 1207. To that end, CARB has already lost at least two years of emissions reductions due to a delayed rulemaking schedule, which means the rate of reductions will need to significantly pick up the pace to achieve the 2030 target.

For all the above reasons, we recommend that CARB consider removing a greater number of allowances from 2027 and 2028 budget years, such that removals pre-2030 are proportionately removed rather than backloaded.

2. Expanding the Pre-2030 California Climate Credit

a. Background on Legislative Extension and Regulatory Proposal

By extending the cap-and-invest program through 2045, California leadership aimed to cut utility bills by *increasing* the value of the California Climate Credit (CCC).[1] However, the ISOR released by CARB proposes a 32 percent allowance cut between 2027 and 2030 to EDUs compared to the current cap-and-invest program, a significantly disproportionate level of reductions when compared to total cuts from the cap.[2] If allowance prices remain at their minimum "floor" value, we estimate the value of EDU allowances in 2027 would be $1.27 billion under the ISOR compared with $2.09 billion under current regulations,[3] a substantial decrease expected to contribute to higher electric utility bills stemming from lower values for the CCC.[4]

The proposed cuts to EDUs are premised on CARB's "compliance cost burden" methodology for allocating allowances to the utility sector, which has been in place since the beginning of the cap-and-invest program, consistent with Assembly Bill 32. The intent of this methodology is to benefit ratepayers by allocating each EDU a quantity of allowances equals the cost burden to that EDU for complying with the cap-and-invest program. The quantity of allowances allocated to each EDU is based on its *anticipated* or *future* compliance cost burden, thereby requiring several key inputs including policy changes, electricity demand, and carbon intensity.[5] The 32 percent allowance cut to EDUs between 2027 and 2030 originate from updates to these key inputs including but not limited to:

- The statutory requirement in Senate Bill (SB) 100 mandating that renewable resources reach 60 percent of retail electricity sales by 2030, an increase in ambition compared to the previous targets from the renewable portfolio standard (RPS);
- Updates to electricity demand data using recent forecasts from the California Energy Commission; and,
- Updates to utility-specific supply resource forecasts, such as adjusting Pacific Gas and Electric Company's emissions intensity downward to reflect the continued operation of the Diablo Canyon Nuclear Power Plant.

b. Should Utility Allocations Lower Utility Bills?

The compliance cost burden methodology is not intended for lowering utility bills. Rather, it is intended for equating allowance allocations and compliance cost burdens. However, members of the Joint Legislative Committee on Climate Change Policies[6] are interested in using the cap-and-invest program to intentionally lower utility bills to address electricity affordability. This follows from an emphasis on "cutting utility bills" that was a critical component of legislative extension last year.

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[1] Governor Newsom signs historic package of bipartisan legislation saving billions on electric bills, stabilizing gas market and cutting pollution | Governor of California; California Assembly Passes Signature Energy Affordability and Climate Legislation | Speaker of the Assembly Robert Rivas.

[2] This is more than the 14 percent cut to the aggregate 2027-2030 cap proposed by in CARB's ISOR.

[3] Assuming a 2 percent CPI, then allowance price at the floor in 2027 equals $30.30. For 2027, assuming that all allowances for electric utilities go to the CCC (which they don't), we get maximum projected allowance value of $2.09 billion ($30.30 * 69.02 million allowances) under the current regulation and $1.27 billion ($30.30 * 41.93 million allowances) under CARB's proposed ISOR.

[4] Note that CARB estimates an increase in the CCC in early years. This stems from an assumption that the allowance price rests between the price floor and the first allowance price containment reserve tier, which would equal about $40 in 2027. Current prices are near their minimum value of $28 with no signs of increasing.

[5] See Staff Report for the CARB ISOR.

[6] Joint Legislative Committee on Climate Change Policies, Monday, February 23, 2026 | California State Assembly

From an economic perspective, there is a strong justification for using allowance allocations to intentionally lower utility bills and, ideally, utility rates. That justification relies on rates being inefficient because prices are higher than the social marginal cost of electricity. In addition, since the compliance cost burden approach was first implemented, it has become quite clear that electrification is a primary pathway for decarbonization, putting further costs on households that will be installing charging stations and heat pumps. Therefore, the cost burden approach can be viewed as too narrow because it only accounts for compliance cost from EDUs and so misses household costs associated with electrification, thereby neglecting an opportunity to further facilitate electrification at the household level. For these reasons, we believe that now is the right time to reevaluate the role of the cap-and-invest program in the utility sector. Should it be used as it has been, to keep consumers whole, or should it be updated with an expanded purpose of lowering utility bills?

c. An Economic View on the "Compliance Cost Burden" Approach

The compliance cost burden method may underestimate cap-and-invest compliance costs due to its assumptions around policy counterfactuals. For example, the ISOR proposed to update compliance cost estimates to account for SB 100, which has recently increased the ambition of the state's RPS to 60 percent by 2030 for retail electricity sales. An update makes good sense because SB 100 was passed after the previous update to the cap-and-invest program. However, the Staff Report argues that SB 100 requires a downward revision of the allowances granted to EDUs. This assumes that the RPS is "binding" (i.e., forcing renewables online that would not otherwise have come online) rather than the cap-and-invest program.

This assumption may lead to CARB underestimating compliance costs. If there are future renewable electricity sales for which the cap-and-invest program "binds", then the carbon price caused the corresponding decrease in emissions rather than SB 100, as assumed by the proposed ISOR. Consequently, the cap-and-invest program incentivized an abatement cost that is "missed" by the compliance cost burden method. While these scenarios are hard for CARB to anticipate and estimate, they stem from the underlying assumption that the "newer" policy, in this case SB 100, is always complied with and necessarily binds over the cap-and-invest program. While we do necessarily recommend any imminent changes based on these observations, we note such oversimplifications can bias the compliance cost burden methodology toward under-allocating cap-and-invest allowances to EDUs.

Another concern is that updating the compliance cost burden method before 2030 may weaken the economic incentive for EDUs to reduce emissions. As the Staff report outlines, a 2017 CARB rulemaking outlined allowance allocations to each EDU for the 2021 to 2030 period. This gave utilities a strong economic incentive to reduce emissions because a renewable energy project, for example, would reduce emissions over the entire 2021 to 2030 period, reliably freeing up allowances over a decade such that they could be banked or sold. This consistent intertemporal economic incentive rewarded early action and encouraged long-lived clean infrastructure investments, contributing to the substantial emissions reductions observed in the utility sector.

By contrast, ratcheting allowance allocations downward based on an update to the compliance cost burden, especially before 2030 when allowance allocations were previously locked in, weakens the economic incentive for abatement, because a portion of the allowances that would have been otherwise been freed up for sale after emissions reducing activities will now instead by removed by CARB as proposed by the ISOR. Economic theory predicts that such ratcheting can encourage firms to maintain or even increase emissions to avoid future reductions in allocations. Harstad and Eskeland (2010) demonstrate that ratcheting increases allowance prices and overall compliance costs.[7] Ultimately, a compliance cost burden approach functions as a "success tax" for early emissions reducers.

[7] Harstad, B. and G. S. Eskeland. 2010. "Trading For the Future: Signaling in Permit Markets". *Journal of Public Economics* 94(9-10): 749-760.

d. Potential Approaches for Increasing Utility Allocations Between 2027 and 2030

We see two approaches for improving the compliance cost burden approach. The first approach would make small improvements within the existing approach to increase allocations to EDUs. The second approach would adopt an alternative approach to allocating allowances to EDUs more consistent with economic best practice.

i. Improvements to the Compliance Cost Burden Approach

The main improvement to the compliance cost burden approach would be to not make any updates before 2030 for non-renewable resources. There is a clear justification for updating renewable resources, including the strengthening of the RPS by SB 100. However, in previous rulemakings, allowance allocations to EDUs were fixed for 2021-2030, and the intent articulated by Staff at the time was that "any changes that utilities make to reduce GHG emissions will reduce their GHG costs while not changing their allocations, thus resulting in a net benefit."[8] By updating allocations for non-renewable resources before 2030, CARB is eroding a portion of this net benefit.

Another potential improvement would be for CARB to acknowledge that not all procurement eligible for the RPS is treated as zero emissions under the cap-and-invest program. Specifically, portfolio content category 2 and 3 can satisfy RPS requirements, but may still have emissions with compliance obligations. Therefore, the compliance cost burden approach may implicitly assume a larger share of fully zero-emitting resources than is required under statute.

ii. Considering Alternative Economic Frameworks

We acknowledge that switching approaches may be infeasible or impractical at this time. Therefore, finding small improvements within the existing compliance cost burden approach may be most practical. Nonetheless, we focus on alternative economic frameworks for CARB to at least consider.

Table 1 summarizes a few approaches outlined in the economics literature for allocating allowances. These approaches are categorized by: (1) what allocations are based on (emissions, output, or intensity); (2) whether or not allocations are revisited over time (historical versus updated); and (3), whether or not auctions are allocated or not (free versus auctioned).

Note that approaches which automatically update allocations based on emissions are rarely used in cap-and-trade programs because of the perverse effect of directly penalizing firms for reducing their emissions. In short, continued pollution would have been rewarded with greater allowances. This is at odds with point of the carbon price, which is to reduce emissions.

The adverse impact of the compliance cost burden approach used in California is best described as a "ratchet effect" which incentivizes firms to delay emissions reductions if they know that CARB will take away some or all surplus allowances after emissions reductions occur. In the case of the compliance cost burden, this update is relatively slow, rather than automatic, and happens discretionarily when CARB updates allocations. Therefore, the perverse effect is weaker than it would be under automatic emissions-based updating.

It is worthwhile to at least consider alternatives that avoid perverse or ratchet effects altogether. Of the approaches listed in Table 1, output-based allocation (OBA) seems most appropriate for such consideration. This is the same allocation approach used in California's industrial sector to allocate allowances to refining, cement, and steel. Under OBA, allowances are allocated based on a formula that multiplies (1) recent production (e.g., barrels of refined oil product), by (2) a carbon intensity benchmark (e.g., emissions per

[8] California Air Resources Board. Final Statement of Reasons for Cap-and-Trade Regulation. 2017.

barrel of refined oil product), by (3) a cap adjustment factor (a ratio), b (4) an industrial assistance factor (a ratio).

OBA addresses the two economic concerns we've identified with the compliance cost burden approach. First, by basing allocation on recent production and emissions levels, OBA sidesteps the necessary guesswork involved in estimating future compliance cost burden that can lead to misallocation of allowances, and also avoids making difficult assumptions about whether policies other than the cap-and-invest program are binding. Second, the carbon intensity benchmark provides a consistent economic incentive to reduce emissions, thereby avoiding the ratchet effect altogether. Setting the benchmark at an appropriately low level to incentivize emissions reductions is an important design consideration if CARB evaluates this approach.

In addition, OBA addresses electricity affordability directly by rewarding more allowances for more production. This provides an implicit output subsidy, such that the price of electricity will be partially subsidized and therefore lower than under other allowance allocation approaches. Therefore, OBA is also well-suited for addressing electricity affordability. Given that lower electricity prices are both economically justified and seemingly consistent with prioritizing lower utility bills, this approach is worthy of evaluation in our view.

TABLE 1
COMPARISON OF APPROACHES TO ALLOWANCE ALLOCATION

Approach	Basis for Calculation	Primary Goal	Examples	Drawbacks
Automatic Emissions-Updating	Rigid formula based on emissions from the immediately preceding period.	Ensure firms always have enough permits to cover current pollution.	Rarely used in cap-and-invest programs due to perverse incentives.	Perverse Incentive: Directly penalizes firms for cleaning up because the more you pollute, the more allowances you get.
Discretionary Emissions-Updating	Periodic regulatory review and re-baselining of allocations as emissions fall.	Ensures firms usually have enough permit to cover current costs, leaving consumers "whole".	California's allocation to the utility sector.	Ratchet Effect: Firms may delay emissions reducing investments if they know the regulator will take away their surplus allowances once they clean up.
Output-Based (OBA) Updating	Current/recent production levels multiplied by a benchmark.	Avoids or prevents emissions leakage, partially subsidizes production, facilitates faster decarbonization.	California's cap-and-invest allocation to its industrial sector including refiners, oil and gas extraction, cement and mineral products, food and beverage manufacturing, and others.	Expanded production of product may lead to higher allowance price.
Auctioning Allowances	Market demand through competitive bidding.	Maximum economic efficiency and generation of government revenue.	California's transportation fuel sector. European Union and Regional Greenhouse Gas Initiative allocations to the utility sector.	Can cause sudden price shocks; risks emissions leakage if not paired with protections, although the utility sector does have protections. May require that auctioned revenue be routed to the California Climate Credit.
Grandfathering	Fixed historical emissions from a past year.	Provide a stable, predictable transition for an existing sector.	Washington's cap-and-invest allocation to its emissions-intensive and trade-exposed sector.	Rewards polluting historical behavior.

3. Conclusion

Clean and Prosperous California looks forward to engaging on these issues with Staff.

Sincerely,

Clayton Munnings

Executive Director

Clean and Prosperous California