March 9, 2026

Lauren Sanchez
Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Environmental Defense Fund Comments on Initial Statement of Reasons Regarding Proposed Amendments to Cap-and-Invest Regulations

Dear Chair Sanchez,

On behalf of Environmental Defense Fund (EDF), we appreciate the opportunity to provide comments responding to the Initial Statement of Reasons (ISOR) put forward by the California Air Resources Board (CARB) on January 20, 2026, proposing updates to the California Cap-and-Invest Program. EDF appreciates CARB's work on this important Program, and we look forward to continued engagement through the remainder of the formal rulemaking process.

Executive Summary

This rulemaking is a crucial opportunity for CARB to strengthen this landmark climate policy so that it can effectively deliver the emissions reductions needed to meet California's climate targets while benefiting households and communities statewide. In these comments, we identify several areas where CARB's proposal can be improved to

ensure the Cap-and-Invest Program fulfills its potential as California's most comprehensive and cost-effective tool for reducing greenhouse gas emissions.

EDF's recommendations include:

I. **Maintain the proposed rulemaking timeline.** CARB should finalize program updates on schedule to provide regulatory certainty and ensure updated program budgets are implemented by September 2026 to take effect in 2027.

II. **Increase near-term program ambition to remove 180 million allowances from 2027-2030 budgets.** Updated budgets will secure greater near-term reductions while remaining within price containment safeguards and still delivering affordability benefits.

III. **Adopt a post-2030 allowance budget that significantly accelerates reductions in the early 2030s compared to the ISOR proposal.** CARB should secure at the minimum an additional 221 MMT CO_2e (million metric tons carbon dioxide-equivalent) in reductions through 2045, beyond the cap proposed in the ISOR, and should evaluate scenarios for further tightening the post-2030 cap.

IV. **Update industrial assistance factors before 2035 based on current economic and leakage risk.** Aligning assistance levels with the most recent data will ensure appropriate protection against leakage while maintaining incentives for industrial decarbonization.

V. **Design the proposed Manufacturing Decarbonization Incentive Allocation to include safeguards around the use of hydrogen.** Ensuring that hydrogen used under the incentive delivers meaningful net emissions reductions and is accounted for accurately is important for environmental integrity.

VI. **Enhance electricity affordability through Climate Credit reforms** by allowing volumetric return for electric climate credits and accelerating the transition from gas utility allocation to additional electric allocation. CARB should design this transition to ensure low- and moderate-income households receive net benefits across their electric and natural gas bills.

VII. **Implement proposed Program changes to retire allowances equal to offsets turned in for compliance.** CARB's work to implement 'offsets under the cap' is an important step to modestly increase program ambition.

VIII. **Preserve cap integrity at the price ceiling.** CARB should proactively develop options for use of price ceiling unit revenue that follows Legislative direction while maintaining cap integrity.

IX. **Advance climate leadership through linkage**. Following completion of this rulemaking, CARB should move expeditiously to formalize linkage with Washington's Cap-and-Invest Program to strengthen market stability, reduce regional emissions faster, and demonstrate the impact of sub-national action on climate.

Introduction

This regulatory proposal follows crucial action by the Legislature and the Governor to pass and sign into law AB 1207 (Irwin, 2025). The law directs CARB to adopt Cap-and-Invest Program rules that ensure covered emissions decline, at a minimum, in line with the state's 2030 and 2045 climate targets,[1] underscoring the importance of this Program as the emissions backstop in California's suite of climate policies. When emission reductions in non-covered sectors fall short, the cap should be properly calibrated to ensure the state stays on target; as the state's most cost-effective tool to cut emissions in line with reduction targets, Cap-and-Invest can and should be fully utilized to keep California on track. Moreover, calibrating the cap to ensure covered sources achieve at least a proportional share of the 2030 and 2045 statutory targets is the *minimum* level of ambition that can comply with the statute. AB 1207 clearly establishes this level of ambition as the floor: "the state board shall adopt a regulation that… ensures that programwide aggregate emissions from covered sources, *at a minimum,* decline with the [2030 and 2045 statutory emission reduction targets]"[2] (emphasis added).

[1] Health and Safety Code Section 38562(c)(2)
[2] Id.

AB 1207, coupled with SB 840 (Limon, 2025), also reflects that Cap-and-Invest is an important affordability solution for California as residents across the state face mounting climate costs. Climate-driven disasters continue to escalate, with damages in California estimated at $100-200 billion between 2014-2024.[3] Rising electricity prices, largely driven by wildfires, ongoing supply chain challenges, increased electricity demand, and tariffs, are straining household budgets and making basic energy needs harder to afford.

At the same time, federal actions to roll back climate protections, challenge clean vehicle and clean air standards, and undermine longstanding scientific findings threaten to reverse national progress and increase costly pollution, placing greater responsibility on California to sustain forward momentum. California's leadership in reducing emissions while protecting affordability is more important than ever.

The good news is that California has a proven track record of success in reducing emissions while growing the state's economy: from 2000 to 2023, greenhouse gas emissions in California fell by 21% while gross state product increased by 81%.[4] The Cap-and-Invest Program has been successfully reducing greenhouse gas emissions[5] which are fueling these costly disasters, while remaining the most cost-effective tool for doing so.[6] Cap and Invest has also raised critical revenue for household rebates, climate resilience investments and to fund the clean energy transition.

In an uncertain and shifting policy landscape, the state will need to lean further on Cap and Invest to deliver cost-effective climate action, even if other policies fall short. The volatility of fossil fuel prices, particularly during periods of geopolitical conflict, underscores the importance of accelerating decarbonization so Californians can transition to an energy system less vulnerable to international instability, tariffs, and other

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[3] ClaimGuide.org, *Disaster Preparedness: Riskiest Places for Severe Weather* (May 2024), Internet Archive. https://web.archive.org/web/20240610141221/https://claimguide.org/disaster-preparedness/.

[4] CARB's Press Release on 2000-2023 GHG Inventory. https://ww2.arb.ca.gov/news/clean-transportation-drove-californias-emissions-drop-2023.

[5] Danae Hernandez-Cortes, Kyle C. Meng, Do environmental markets cause environmental injustice? Evidence from California's carbon market, Journal of Public Economics, Volume 217, 2023.

[6] 2024 Annual Report of the Independent Emissions Market Advisory Committee, p. 31. https://calepa.ca.gov/wp-content/uploads/2025/02/2024-ANNUAL-REPORT-OF-THE-IEMAC-final.pdf.

factors beyond the state's control. Raising the ambition of the Cap-and-Invest Program is one of the most effective ways to reduce this exposure while driving the emissions reductions needed to meet the state's climate targets.

I. CARB must finalize program rules quickly to implement new allowance budgets in September 2026.

EDF appreciates CARB releasing this ISOR along with the proposed timeline to finalize rule updates by the end of May. Maintaining this schedule is necessary to implement reduced emissions allowance budgets without delay, to provide regulatory certainty and clear price signals to market participants, and to allow CARB to move towards formalizing linkage with Washington state.

There have already been real costs to the delay of this rulemaking, which began informal proceedings and public meetings in 2023. In the 2022 Scoping Plan, CARB identified a 48% reduction below 1990 levels by 2030 as necessary to get on track for California's 2045 goals under AB 1279 (Muratsuchi, 2022).[7] CARB's 2024 Standardized Regulatory Impact Assessment (SRIA) estimated that achieving this 48% by 2030 reduction target would require removing approximately 265 million allowances from pre-2031 budgets.[8] CARB's proposal in the ISOR removes less than half of this amount – a loss in ambition which CARB noted in their October workshop[9] was due in part to the shortened time between now and 2030 in which to make those reductions, compared to when this was presented in 2024. CARB's decision to pursue this less ambitious pathway will allow 147 million more tons of emissions to enter the atmosphere between

[7] See 2022 Scoping Plan for Achieving Carbon Neutrality. E.g., "The Scoping Plan Scenario achieves the AB 1279 target of 85 percent below 1990 levels by 2045 and identifies a need to accelerate the 2030 target to 48 percent below 1990 levels." (p.71) https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf.

[8] Standardized Regulatory Impact Assessment (2024). "CARB staff is proposing to remove 264 million total allowances from the cumulative 2025-2030 budgets…to support the 48% below 1990 level by 2030 GHG emissions reduction target put forth in the 2022 Scoping Plan Update." (p. 10) https://ww2.arb.ca.gov/sites/default/files/2024-04/nc-Cap-and-Trade_SRIA2024.pdf.

[9] California Public Workshop: Potential Amendments to the Cap-and-Invest Program (October 29, 2025) at 16:44. https://www.youtube.com/watch?v=CWGz5ZEKedk.

2025-2030, and **any further delay will jeopardize California's ability to meet the statutory 40% reduction target by failing to restrict covered emissions now**.

Ensuring this rule is voted on this spring and implemented this fall is also necessary to provide regulatory certainty and clear price signals to market participants, the need for which was underscored by the results of the February 18th auction which cleared at the price floor.[10] The persistently low prices in allowance auctions over the past year – where prices have hovered at or only slightly above the price floor[11] – show that the allowance budget can be tighter in the near-term while maintaining a balanced market. Consistently low demand at auctions from compliance entities indicates that reducing allowance supply is a logical path forward to create balanced market conditions that sufficiently incentivize emissions reductions and drive revenue to energy affordability and the Greenhouse Gas Reduction Fund (GGRF). Finalizing updates on schedule will also help ensure that reduced allowance budgets take effect no later than 2027, avoiding delays that would increase cumulative emissions and forego near-term climate and affordability benefits.

Furthermore, **completing this rulemaking on schedule will position CARB to promptly advance the regulatory and technical steps needed to pursue market linkage with Washington State's Cap-and-Invest Program**, which CARB noted in their January Priorities Memo.[12] The release of a draft linkage agreement on March 3[13] was a significant step in this process – moving forward, establishing a clear and timely pathway to linkage will strengthen market stability and sustain momentum for state-led climate action at a time when subnational leadership is more essential than ever.

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[10] California Cap-and-Invest Program and Québec Cap-and-Trade System February 2026 Joint Auction #46 Summary Results Report. https://ww2.arb.ca.gov/sites/default/files/2026-02/nc-feb_2026_summary_results_report.pdf.
[11] See Summary of California-Quebec Joint Auction Settlement Prices and Results. https://ww2.arb.ca.gov/sites/default/files/2020-08/results_summary.pdf.
[12] CARB Priorities for 2026 (January 28, 2026), p. 4. https://ww2.arb.ca.gov/sites/default/files/barcu/board/books/2026/022626/26-1-2memo.pdf.
[13] Agreement on the Harmonization of Market-Based Programs for Reducing Greenhouse Gas Emissions Between the Gouvernement Du Québec, the State of California, and the State of Washington (March 2026). https://apps.ecology.wa.gov/publications/documents/2614018.pdf.

II. CARB should pursue greater near-term ambition by removing 180 million allowances from 2027-2030 budgets while preserving household affordability benefits.

We appreciate that the ISOR proposes to remove 118 million allowances from 2027-2030 budgets to account for inventory updates. CARB has an opportunity to further increase the ambition of California's cornerstone climate program while providing meaningful affordability benefits to California families – particularly those who are most impacted by rising energy bills. CARB must pursue greater near-term reductions to maximize the climate benefits of emissions reductions, avoid the worst impacts and costs of climate change, stabilize the market, and to align the program with California's climate targets.[14] As discussed further below, new modeling results demonstrate that the Cap-and-Invest Program can afford to be more ambitious in the near term while still containing costs and saving money for California households.

a. Importance of maximizing cumulative emissions abatement

Near-term ambition is what matters most for the climate: early reductions in long-lived climate pollutants, like carbon dioxide, are critical to minimizing the cumulative build-up of climate pollution in the atmosphere and limiting overall warming, while early reductions in short-lived climate pollutants, like methane, are critical to slowing the rate of warming. Early reductions lead to greater cumulative emissions reductions; the total amount of greenhouse gases emitted over time has a more direct impact on climate change than annual emissions targets alone. The path we take towards achieving emissions targets – and the cumulative reductions achieved over time – is even more important than 'hitting' a particular emissions level in a specific year.

b. Rising costs of climate impacts in California

California is already experiencing the costly consequences of climate change, from increasingly destructive wildfires and extreme heat to drought and flooding that strain

[14] For example, in the SRIA (2024), CARB proposed removing 264 million allowances from the cumulative 2025-2030 budgets and argued this was necessary "to support the 48% below 1990 level by 2030 GHG emissions reduction target put forth in the 2022 Scoping Plan Update." (p. 10) https://ww2.arb.ca.gov/sites/default/files/2024-04/nc-Cap-and-Trade_SRIA2024.pdf.

public and household budgets alike. A national report ranked California the worst state for natural disasters fueled by a changing climate, with expected annual losses totaling more than $16 billion statewide.[15] Home insurance is harder and more expensive to obtain; seven of California's largest property insurers have limited new homeowners policies in the state, raising questions about the stability of the California home insurance market.[16] California is projected to see more deaths due to wildfire smoke by midcentury than any other state[17] – already, exposure to wildfire smoke was found to have caused more than 50,000 deaths in an 11-year period and caused more than $400 billion in economic impacts.[18] Increasing the ambition of the state's most cost-effective climate policy now to reduce near-term emissions can help reduce the scale and cost of future climate damages, easing long-term financial and health burdens on Californians while protecting communities. CARB should seize this opportunity to deliver a safer climate future for Californians while preserving household affordability.

c. *CARB can drive greater near-term reductions while still delivering meaningful net benefits to low- and moderate-income households*

We understand and appreciate that CARB is seeking to balance the dual mandate of preserving household affordability and achieving California's emissions reduction targets, and modeling shows that the ISOR proposal preserves household affordability benefits while pursuing the minimum required emissions reductions. However, updated modeling from Greenline Insights (GLI)[19] finds that **CARB could pursue a stronger**

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[15] ClaimGuide.org, *Disaster Preparedness: Riskiest Places for Severe Weather* (May 2024), Internet Archive. https://web.archive.org/web/20240610141221/https://claimguide.org/disaster-preparedness/.

[16] Bankrate, *Limited home insurance options in California as major carriers pull back* (August 12, 2024). https://www.bankrate.com/insurance/homeowners-insurance/carriers-exit-california-home-insurance/.

[17] Axios, *California faces highest wildfire smoke death count in U.S.* (October 8, 2025). https://www.axios.com/local/san-diego/2025/10/08/california-faces-highest-wildfire-smoke-death-count-in-u-s.

[18] Rachel Connolly et al., Mortality attributable to PM2.5 from wildland fires in California from 2008 to 2018.*Sci. Adv.*10,eadl1252(2024). https://www.science.org/doi/10.1126/sciadv.adl1252.

[19] Greenline Insights, *Analytical Response to CARB's ISOR Proposal for California's Cap-and-Invest Program* (March 2026). https://www.greenlineinsights.com/carbs-isor-proposal-analytical-response.

emissions cap than proposed in the ISOR while still providing meaningful cost-savings to low- and moderate-income families.

GLI evaluated two scenarios for a tighter emissions cap than what CARB proposed in the ISOR – one which modeled removing approximately 154 million allowances from the 2027-2030 allowance budgets, and one which modeled removing approximately 180 million allowances from the 2027-2030 allowance budgets. In both scenarios modeled, a tighter cap supports faster emissions reductions while preserving cumulative cost savings for low- and moderate-income households. Key results from the modeling include:

Higher Ambition Scenario 1: Remove 154 million allowances from 2027-2030 allowance budgets

- Removing approximately 154 million allowances through 2030 (reducing the cap by an additional 36 million tons of climate pollution through 2030 compared to the ISOR proposal) is projected to result in over $2 billion in net savings to California families earning $100,000 or less per year – a group that represents more than half of all households in the state. Lower-income families, earning $70,000 or less, receive the biggest affordability gains in this scenario: $3.4 billion in net savings through 2045.
- This scenario would reduce the emissions cap by a further 126 million tons, cumulatively, between 2027 and 2045 beyond the cap proposed in the ISOR – a total reduction of 1 billion allowances from the baseline.
- This scenario is projected to generate $600 million more in urgently needed revenue for the GGRF compared to CARB's proposal.

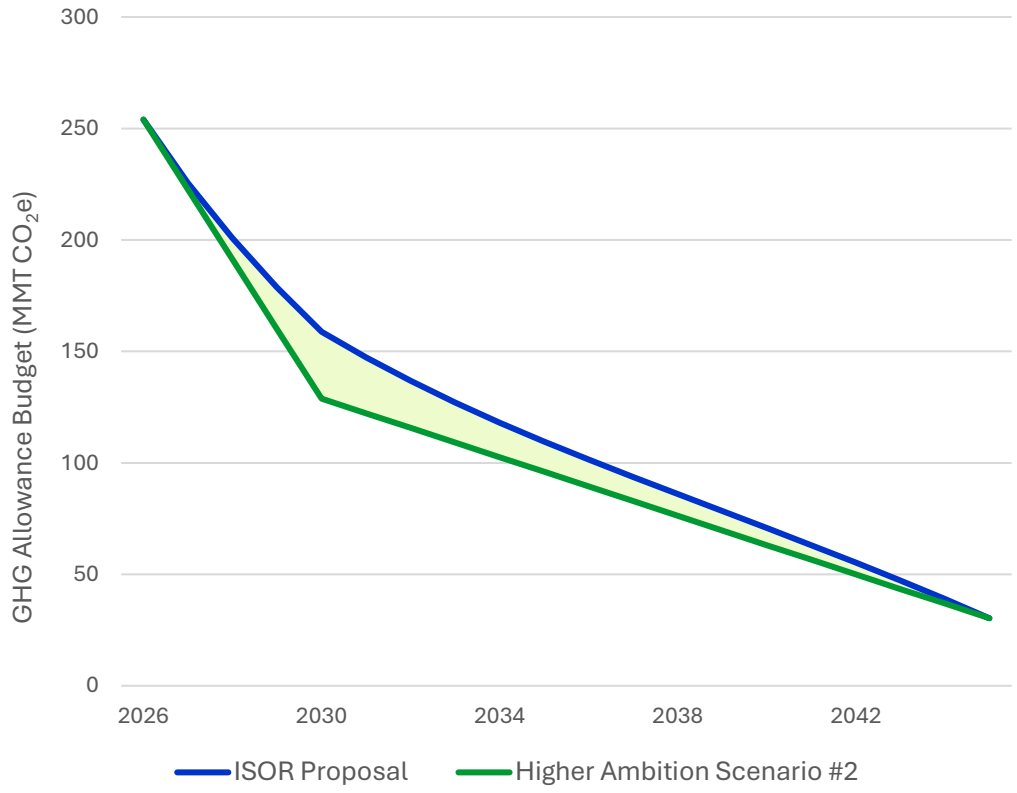
Higher Ambition Scenario 2: Remove 180 million allowances from 2027-2030 allowance budgets

- Shown below in Figure 1, the most ambitious scenario modeled by Greenline Insights, which would remove approximately 180 million allowances through 2030 (reducing the cap through 2030 by an additional 60 million tons of climate pollution compared to the ISOR proposal), would significantly incentivize

decarbonization while saving money for working families. Specifically, pursuing this level of cap ambition is projected to result in over $860 million in net savings to California families earning $100,000 or less per year. As with Scenario 1, Scenario 2 is projected to provide the biggest affordability gains to lower-income families earning $70,000 or less: $2.8 billion in net savings through 2045.

- This scenario would reduce the emissions cap by a further 221 million tons, cumulatively, between 2027 and 2045 beyond the cap proposed in the ISOR – a total reduction of 1.1 billion allowances from the baseline.
- This scenario is also projected to generate over $1 billion more in revenue for the GGRF compared to CARB's proposal.

Figure 1: Higher Ambition Scenario #2 Reduces the Cap by 180 MMT CO_2e Through 2030



d. Market functionality is improved with properly calibrated supply and demand

Importantly, **both scenarios show pathways for increased program ambition without triggering any of the program's price containment mechanisms.** These modeled scenarios improve the balance between allowance supply and demand, resulting in allowance prices rising modestly above the price floor while remaining well within price containment boundaries. A more balanced market strengthens the allowance price signal, which is necessary to drive emissions abatement. These higher ambition trajectories are also associated with higher GGRF revenue and reduced likelihood of undersubscription in future allowance auctions, providing greater certainty in the availability of funds used to offset household cost impacts.

These results show that CARB can and should deliver stronger climate action in this rulemaking while still preserving affordability benefits for low- and middle-income households in California. Tightening the cap beyond the level proposed in the ISOR will meaningfully reduce California's near-term and cumulative emissions, improve market performance and deliver affordability benefits for the households most burdened by rising energy costs. We therefore urge CARB to adopt a more ambitious allowance budget than currently proposed and to fully leverage this rulemaking to secure greater, cost-effective emissions reductions.

III. CARB should adopt a tighter post-2030 emissions cap than proposed, with the cap declining more quickly in the early 2030s to maximize cost-effective emissions abatement.

In addition to tightening the cap by 180 million allowances through 2030, **EDF urges CARB to adopt a post-2030 allowance budget that significantly accelerates reductions in the early 2030s compared to the ISOR's proposed cap.** In the ISOR, CARB proposes an allowance budget that declines at the same pace for the 15 years between 2030 and 2045, resulting in a cumulative allowance budget of 1.3 billion tons CO_2e over this

period.[20] However, the cap does not need to decline at the same rate over the 15-year period between 2030 and 2045; there are numerous benefits to reducing the cap more quickly in the early 2030s and adopting a more gradual cap decline in the late-2030s and into the 2040s. Accelerating reductions in the early 2030s would put California in a stronger position to cost-effectively achieve its 2045 climate targets by securing cumulative reductions in the earlier years of the program, when lower-cost abatement opportunities are more readily available. Securing more rapid reductions through 2035, for example, will enable CARB to facilitate a more gradual decline in the cap as the state approaches deep levels of decarbonization. Pursuing a more stringent cap decline in the early 2030s will also bring the state closer to meeting its 40% by 2030 statutory target, as compliance entities accelerate their reductions and bank allowances for future use when the cap will become tighter.

Moreover, achieving greater reductions in the early 2030s would enable CARB to recoup reductions that have been missed due to the delayed rulemaking timeline. For example, CARB initially outlined proposals that would have removed allowances from the cap starting in 2025; under the most ambitious scenario outlined at the outset of the rulemaking process, the cap would have been reduced by as much as 390 MMT CO_2e through 2030.[21] In the 2024 SRIA, CARB staff proposed removing approximately 265 MMT CO_2e from the allowance budget through 2030, indicating this level of near-term ambition was necessary to align with the 2022 Scoping Plan.[22] Now, the ISOR proposes to reduce the cap by only 118 MMT CO_2e through 2030 to account for GHG inventory updates. Greater emissions reductions – as outlined in the 2022 Scoping Plan and in the 2024 SRIA – are still essential for California to cost-effectively meet its climate targets; tightening the post-2030 program cap presents an opportunity for CARB to secure as many of these reductions as possible even if delayed.

As detailed further below, **EDF urges CARB to tighten the post-2030 allowance budget by *at least* 221 million tons CO_2e,** reflecting the cumulative reductions modeled in Greenline Insights' higher ambition cap scenario. In addition, CARB should evaluate

[20] Appendix A-1 Proposed Regulation Order, Table 6-2.
[21] *See* Cap-and-Invest Program Workshop slides (July 2023).
[22] *See, e.g.,* SRIA at p. 10.

greater stringency on top of the 221 million tons of abatement, which will help secure additional cost-effective reductions through the Cap-and-Invest program and put California in a stronger position to meet its 2045 climate targets.

a. CARB should remove an additional 221 MMT CO_2e from the allowance budget beyond the ISOR proposal, at the minimum, even if some of those reductions come from the post-2030 budget

As outlined above, Greenline Insights (GLI) modeled alternative emissions caps that tighten the allowance budget more quickly than proposed in the ISOR through 2030.[23] GLI's modeling results indicate there is clearly room to achieve at least an additional 221 MMT CO_2e reduction through 2045 beyond the emissions cap proposed in the ISOR (this is the cumulative reduction achieved between 2027 and 2045 under GLI's Higher Ambition Scenario #2). In the most ambitious scenario modeled by GLI, the program is still modeled to provide cost savings to low- and moderate-income families, produce allowance prices well within the program's price containment points, and achieve a better balance between allowance supply and demand – all while cumulatively reducing an additional 221 MMT CO_2e compared to the ISOR proposal.[24] **Therefore, even if CARB ultimately adopts the bare minimum 118 MMT CO_2e reductions proposed in the ISOR through 2030, EDF urges CARB to still achieve *at least* the cumulative 221 MMT CO_2e reductions modeled by GLI – *additional to the reductions proposed by the ISOR* – by tightening the post-2030 emissions cap.** Figure 2 below shows one pathway for reducing an additional 221 MMT CO_2e in the program budget after 2030. This trajectory would accelerate the pace of reductions through 2035, resulting in a 2035 allowance budget of 80 MMT CO_2e rather than the 110 MMT CO_2e allowance budget proposed in the ISOR for 2035, and then more gradually reduce the cap from 2035 to 2045.[25]

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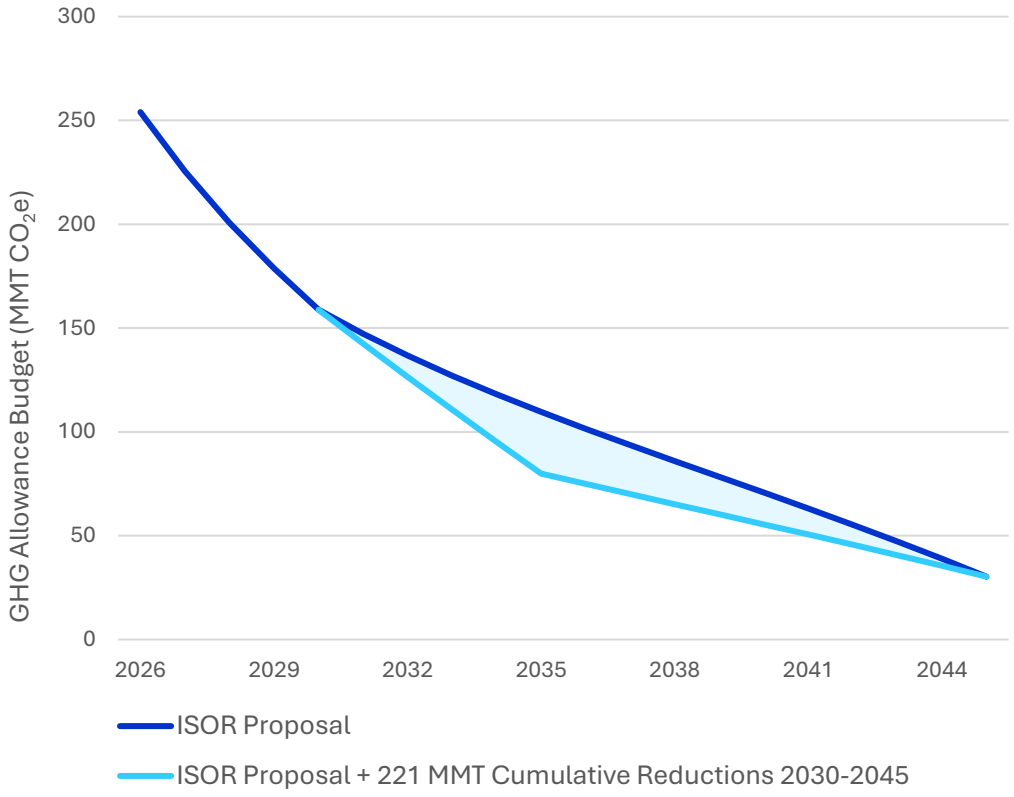
[23] Greenline Insights, *Analytical Response to CARB's ISOR Proposal for California's Cap-and-Invest Program* (March 2026).
[24] Id, p. 9-11.
[25] While GLI did not model this precise cap trajectory, they modeled a cap scenario that achieves the same level of cumulative reductions – 221 MMT CO_2e – indicating this level of cumulative reduction can provide affordability benefits and modest allowance prices.

Figure 2: Scenario to Tighten the Emissions Cap by 221 MMT CO_2e Between 2030-2045



b. CARB should evaluate scenarios for further tightening the post-2030 cap, beyond the minimum 221 MMT CO_2e in cumulative reductions, to secure additional cost-effective reductions in the early 2030s.

Beyond at least securing an additional 221 MMT CO_2e in cumulative reductions, CARB should also evaluate even greater stringency in the post-2030 allowance budget. CARB has stepped far back from more ambitions options in the rulemaking as a result of the delayed timeline.[26] While CARB indicated that reducing the cap by approximately 265 MMT CO_2e through 2030 was necessary to align with the 2022 Scoping Plan and the state's 2045 climate targets,[27] the ISOR now proposes to reduce the cap by only 118

[26] E.g., CARB considered removing 390 MMT CO_2e from allowance budget through 2030. *See* Cap-and-Invest Program Workshop slides (July 2023). https://ww2.arb.ca.gov/sites/default/files/2023-07/nc-CapTradeWorkshop_July272023_0.pdf.
[27] See, e.g., Cap-and-Trade Program Workshop slides (July 27, 2023), which described this increased near-term ambition as "supportive of 2045 carbon neutrality pathway in Scoping

MMT CO_2e through 2030 – less than half of the near-term reductions CARB argued were necessary. Moreover, the 118 MMT CO_2e reduction proposed in the ISOR does not represent any increase in near-term ambition – it is solely to account for methodology updates to the GHG Inventory.[28] While the significant rulemaking delay means CARB has missed an opportunity to fully align the near-term emissions cap with the 2022 Scoping Plan, CARB can still recoup the necessary cumulative abatement—by making important changes pre-2030, and then by further accelerating reductions in the early 2030s. **EDF recommends CARB evaluate scenarios for further reducing the cap through 2035*, in addition* to securing *at least* 221 MMT CO_2e in cumulative reductions beyond the cap proposed in the ISOR.**

Tightening the cap further in the early 2030s will also provide additional cost-effective reductions and more flexibility as California approaches its 2045 targets to reduce gross emissions by 85% and reach carbon neutrality. GLI's modeling indicates there is still significant low-cost abatement that can be achieved in the 2030s, beyond the ISOR and beyond the tighter cap trajectories GLI modeled. Indeed, when evaluating the ISOR proposal under a range of emissions demand scenarios, GLI found that allowance prices are projected to track closely to the price floor or rise only modestly above the floor until 2040 or later (see Figure 3 below).[29] Under GLI's Higher Ambition Scenario #2, which removes approximately 180 MMT CO_2e from the cap through 2030 and achieves 221 MMT CO_2e in cumulative reductions through 2045 relative to the ISOR, allowance prices are projected to be more or less flat throughout the 2030s and stay well below even the first tier of the APCR.[30] These low allowance price projections underscore the opportunity for CARB to further tighten the post-2030 emissions cap and drive additional, cost-effective abatement. Reducing the cap at a faster rate in the early 2030s would secure greater cumulative abatement while giving CARB flexibility to

Plan." https://ww2.arb.ca.gov/sites/default/files/2023-07/nc-CapTradeWorkshop_July272023_0.pdf.

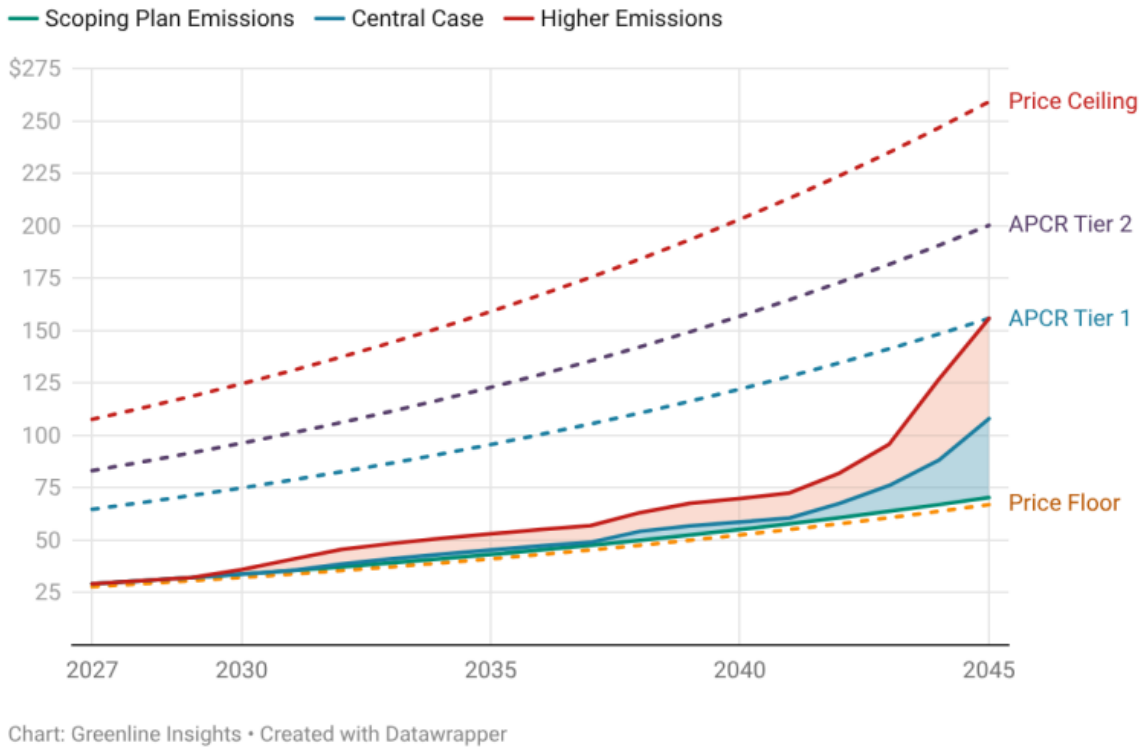
[28] The ISOR explains: "Removing 118 million allowances from 2027-2030 allowance budgets is needed to account for updates to CARB's GHG Emission Inventory." (p. 30).

[29] Greenline Insights, *Analytical Response to CARB's ISOR Proposal for California's Cap-and-Invest Program* (March 2026), p. 16.

[30] Id, p. 10.

reduce the cap more gradually as the state gets closer to its 85% reduction and net-zero goals.

Figure 3: Allowance Price Projections Under Various Emissions Trajectories, $/MTCO$_2$e[31]



IV. Updating Industrial Allocation to Reflect Actual Leakage Risk.

We urge CARB to undertake a rulemaking by 2031 to evaluate leakage and reconsider the appropriate post-2031 Industrial Assistance Factor to reflect actual leakage risk, and establish a regular process for updating these values to ensure the program reflects real-world economic conditions and responds to the most current economic data.

AB 398 (E. Garcia, 2017) established a requirement that all Industrial Assistance Factors (IAF), which are part of the formula determining allocation to industrial entities, be set at 100% through 2030, regardless of actual economic conditions and specific vulnerabilities to leakage. AB 1207 (Irwin, 2025) removed that requirement, returning

[31] Id, p. 16. These allowance prices are modeled under the emissions cap proposed in the ISOR.

CARB's discretion to "distribute industrial sector allowances in a manner that minimizes emissions leakage risk to cost-effectively achieve the [state climate targets]" starting in 2031.[32] By lifting the restriction that previously limited CARB's authority to adjust leakage factors, the Legislature clearly returned discretion to the agency to update industrial allocation levels based on actual leakage risk and current economic data. The ISOR proposes to maintain 100% leakage assistance through 2035 – for almost another decade – five years after the legislation directs CARB to allocate industry allowances based on minimizing emissions leakage risk. This proposal is a missed opportunity to align leakage assistance with true leakage risk.

a. CARB's assumption that all industries face the same, highest level of leakage risk through 2035 requires closer scrutiny.

Regulatory documents from CARB pre-dating the AB 398 requirement that industry assistance be set at 100% show that CARB has previously concluded that this 100% level was not necessary for all industries. In the 2013 Cap-and-Trade regulations, based on CARB's leakage risk assessment,[33] CARB set Industry Assistance Factors beginning in the 2018-2020 budget years at 75% for a wide range of industries, including petroleum refining and industrial gas manufacturing.[34] While this specific level of industrial assistance may not be the appropriate path forward today, the range of assistance factors and leakage risk classifications from 2013 demonstrate that CARB's own analysis has previously shown that an assumption of 100% leakage risk across the board is not accurate.

Furthermore, empirical evidence shows that GHG pollution regulation is not as susceptible to leakage as some may suggest. A 2022 study of trade flows between OECD and non-OECD countries found climate policies did not drive carbon leakage, with emissions transfers peaking in 2006 and declining thereafter even as emissions

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[32] Health and Safety Code Section 38562(c)(2)(G)
[33] CARB, Appendix B: Leakage Risk Analysis for New and Modified Sectors (2013). https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2013/capandtrade13/capandtrade13isorappb.pdf.
[34] Final Regulation Order, Table 8-1: Industry Assistance. https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2013/capandtrade13/ctreg.pdf?_ga=2.234941185.1201268991.1772981209-1758002575.1634164157.

mitigation efforts in the US and EU intensified.[35] In this case, protections for EITE industries were instrumental in preventing leakage, which points to the importance of preserving California's output-based allocation method and ensuring it is properly calibrated to real-world economic conditions. A study of the EU ETS also found that the system did not measurably harm European firms' competitiveness or cause leakage.[36] More broadly, emissions mitigation policies can, over the medium and long term, make firms more competitive by aligning their operations with consumer and government standards for clean production. A 2023 study from McKinsey and NielsenIQ found that products making ESG-related claims have average sales growth 8% higher than products without such claims.[37] In fact, CARB's own leakage analysis found that the program has been successful at preventing leakage through output-based allocation.[38]

California's current approach of 100% leakage assistance across the board makes it an outlier among similar subnational programs. California could look to its current linked partner, Quebec, for an example of how to successfully reduce industry assistance over time; Quebec started differentiating their assistance factors between 90-100% in 2021 based on risk classification.[39] Washington, California and Quebec's potential future linked partner, offers another example: Washington's approach will have the benchmark adjustment factor for EITEs decline to 97% in starting in 2027.[40] Beyond North America, the European Union's multi-national emissions trading system currently has

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[35] Grubb et al., *Carbon Leakage, Consumption, and Trade,* Annual Review of Environment and Resources (October 2022), https://www.annualreviews.org/doi/full/10.1146/annurev-environ-120820-053625#_i55.

[36] Verde, Stefano F., *The Impact of the EU Emissions Trading System on Competitiveness and Carbon Leakage: The Econometric Evidence,* Journal of Economic Surveys, February 2020, https://onlinelibrary.wiley.com/doi/abs/10.1111/joes.12356.

[37] McKinsey & Company, *Consumers Care About Sustainability-And Back it Up With Their Wallets,* (February 6, 2023), https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/consumers-care-about-sustainability-and-back-it-up-with-their-wallets.

[38] Cap-and-Invest Workshop (October 2025), slide 35. https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/meetings/nc_CapInvestWorkshop_October2925.pdf.

[39] International Carbon Action Partnership, Carbon Leakage and Deep Decarbonization (June 2020). https://icapcarbonaction.com/system/files/document/icap_carbonleakagedeepdecarbonization_fullreport.pdf.

[40] Cap-and-Invest Workshop (October 2025), slide 37. https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/meetings/nc_CapInvestWorkshop_October2925.pdf.

leakage assistance factors set at 97.5% which will scale down to 51.5% in 2030.[41] Rather than continue with an approach that is out of step with similar partners and inconsistent with CARB's past findings, CARB should recalibrate industrial assistance according to actual leakage risk.

b. Longer investment horizons for heavy industry necessitate early incentive to decarbonize

Appropriately incentivizing emissions reductions in the industrial sector in the early 2030s will be critical to keeping California on track to meet its 2045 targets for 85% reductions below 1990 levels and net zero. Covered entities in heavy industry typically make investment decisions over long capital planning cycles. If meaningful emissions reductions are not made in the early 2030s, we risk locking in higher-emitting, less efficient infrastructure and missing the opportunity to align major capital investments with California's long-term decarbonization pathway.

CARB's own modeling underscores the importance of early industrial emissions reductions. The 2022 Scoping Plan shows that industry will need to meaningfully reduce emissions in order for the state to remain on track: CARB's Scoping Plan scenario modeled the industrial sector reducing its emissions 55% by 2035 relative to projected emissions levels in 2026.[42] Achieving this scale of reduction will require substantial progress from the industrial sector within the next decade. As the emissions cap declines and the number of allowances in the market becomes more limited, it will be increasingly important to prioritize robust allocation to sectors that face the greatest leakage risks. Aligning industrial assistance factors with real-world leakage risk will help ensure California stays on a cost-effective path to meet its climate targets while preserving the competitiveness of emissions-intensive, trade-exposed facilities.

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[41] Cap-and-Invest Workshop (October 2025) slide 37. https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/meetings/nc_CapInvestWorkshop_October2925.pdf.

[42] See AB 32 GHG Inventory Sectors Modeling Data Spreadsheet, under the "Emissions" tab. https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. The Scoping Plan Scenario models industrial sector emissions declining from approximately 65 MMT CO_2e in 2026 to 29 MMT CO_2e in 2035.

By updating these arbitrarily set industrial assistance factors before 2035, CARB can redirect allowance value where it is most needed while increasing the economic incentive of covered industries to abate their emissions in the near-term. Driving further reductions in the industrial sector as early as possible helps to relieve pressure on higher-cost abatement options and also drives investment in the kind of emissions abatement technologies that may take longer to operationalize.

c. Over-allocation to industry based on artificially high leakage risk has real opportunity cost

A more tailored approach to industrial allocation could preserve or even increase competitiveness protections where they are truly needed while reducing excess free allowances where risks are demonstrably low. Allowances that are no longer necessary for leakage prevention in certain sectors could support those more at risk, could be sold at auction, or could be redirected to support other program priorities, including strengthening affordability benefits for households.

Adjusting the assistance factor even at a minor level – lowering it from 100% to 95%, for example – would have significant benefits to GGRF revenue. Based on industrial allocation data for the last 5 years (2022-2026, inclusive), industry was allocated 164 million no-cost allowances.[43] If, in each of those years, the industrial assistance factor was set to 95% instead of 100%, industry would have still received over 156 million allowances – a difference of 8 million allowances.[44] **Had those 8 million allowances been sold at auction rather than freely allocated from 2022-2026, this would have generated more than $250 million in additional in revenue for the GGRF.[45]**

d. CARB should publish updated leakage risk data and adjust assistance factors to avoid 'lock-in'

[43] See Annual Allowance Allocation Summaries for 2022 through 2026. https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cap-and-trade-program-data.
[44] Industry received 164,465,941 no-cost allowances between 2022 and 2026. If, in each of those years, the industrial assistance factor were set to 95% instead of 100%, industry would have still received 156,242,644 allowances – a difference of 8,223,297.
[45] Calculated by taking 95% of the total industrial allocation for each year, multiplied by the average auction settlement price for that year.

CARB should reexamine industry allocation prior to 2030 and implement Industrial Assistance Factors for 2031 and beyond that account for actual leakage risk and up-to-date economic data. Updating these factors on a more timely basis would better align allowance allocation with actual leakage risk and ensure the program is using its limited emissions budget as efficiently as possible. CARB has previously stated that they are re-developing a leakage risk assessment for energy-intensive, trade-exposed (EITE);[46] we encourage CARB to publicize this leakage analysis for public input and review.

Indicating CARB's intent to appropriately update these leakage factors before 2035 is also important to avoid a "lock-in" effect with covered industries. CARB may want to clearly signal that while they are trying to provide long-term certainty and direction, economic conditions can change in the next decade and allowance allocation may need to be adjusted to reflect those realities. This kind of signal may be helpful to covered industries as a reminder that the current rate of industrial assistance is at CARB's discretion (not "locked in") and well within CARB's authority to update as needed.

V. Ensuring high climate standards for hydrogen eligible for Manufacturing Decarbonization Inventive Allocation.

In the ISOR, CARB proposed the Manufacturing Decarbonization Incentive Allocation, a new pathway for covered entities in the manufacturing industry to receive a greater rate of allowance allocation via an alternative cap adjustment factor to incentivize on-site decarbonization actions. In EDF's November 2025 comments responding to CARB's October workshop in which a concept for revising industrial allowance allocation was first outlined, we raised concern that this may be an unnecessary addition to the ongoing rulemaking process - particularly considering the successful track record of the existing output-based allocation system (OBA).

If CARB does continue to pursue this industrial decarbonization incentive, alongside the existing OBA system, there are important guardrails that will need to be established. This

[46] CARB, Cap-and-Invest Program Workshop, (October 2025), slide 35.

is true for any technology considered for this incentive, and particularly hydrogen, to ensure this incentive applies only to efficient and permanent on-site emissions reductions. As a general principle, CARB should account for the full emissions profile of hydrogen when considering eligibility applications, not only the on-site emission reduction potential, and should approve each production pathway independently. CARB should only award the Manufacturing Decarbonization Incentive Allocation (Incentive Allocation) to facilities sourcing hydrogen where upstream emissions, including methane where relevant, are fully quantified in the application, where projects are subject to an enforced leak detection and repair plan, and where electrification is not a feasible alternative.

a. Account for the climate warming impact of hydrogen releases when considering eligibility

Hydrogen itself is an indirect greenhouse gas, where latest science suggests that hydrogen emissions are 30-40 times more powerful at trapping heat over the following 20 years than carbon dioxide for equal mass, and 8-12 times more powerful over a 100-year period.[47] Hydrogen is also a very small molecule prone to leaking easily, and it is often released through routine practices such as venting and purging. Studies have found leaked hydrogen emissions range from more than 0.2% to 20%, with exact amounts varying across value chain components.[48] Because of the significant climate impact of hydrogen emissions from leakage and operational releases, any uses of hydrogen as part of the decarbonization incentive must also capture information on hydrogen releases and factor its climate warming potential into the overall lifecycle assessment. For example, the quantity of hydrogen leakage can already be estimated

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[47] See: Warwick, N. J., et al *Atmospheric composition and climate impacts of a future hydrogen economy. Atmospheric Chemistry and Physics*, (2023) 23(20), 13451–13467. https://doi.org/10.5194/acp-2313451-2023; Sand, M. et al. *A multi-model assessment of the Global Warming Potential of hydrogen* (2023). Commun Earth Environ 4, 203. https://doi.org/10.1038/s43247-023-00857-8; Derwent, R. *Global warming potential (GWP) for hydrogen: Sensitivities, uncertainties and meta-analysis* (2023) International Journal of Hydrogen Energy, 48(22), 8328–8341. https://doi.org/10.1016/j.ijhydene.2022.11.219; Hauglustaine, D., Paulot, F., Collins, W., Derwent, R. G., Sand, M., & Boucher, O. *Climate benefit of a future hydrogen economy* (2022), Communications Earth & Environment, 3(1). https://doi.org/10.1038/s43247-02200626-z

[48] Esquivel-Elizondo et. al, *Wide range in estimates of hydrogen emissions from infrastructure* (August 2023), https://www.frontiersin.org/journals/energy-research/articles/10.3389/fenrg.2023.1207208/full

using a mass-based equation (comparing inputs to outputs), coupled with hydrogen's GWP value (referenced above). Even smaller releases (on the parts per billion level) will soon be detectable, as high-precision sensors are on the path to commercial availability.

CARB should also require, as a condition of Incentive Allocation eligibility, that manufacturers source their hydrogen from facilities with established hydrogen leak detection and repair (LDAR) plans. Several countries outside of the US, such as the United Kingdom and those within the European Union are already making significant progress in establishing regulation that monitors hydrogen emissions.[49,50]

b. Upstream emissions, including methane, must be quantified to determine Incentive Allocation eligibility

Methane is a highly potent GHG, with a warming potential that is over 80 times higher than carbon dioxide over a 20-year period and 30 times higher over a 100-year period[51]. Studies show that high methane leak rates can severely undermine fossil-based hydrogen's climate benefits[52]. For example, current eligibility under 45V is determined by a national average of upstream methane emissions of around 0.8%. However, methane emissions from oil and gas production vary substantially by basin. Recent measurement data from EDF's MethaneAIR program has found that methane leak rates from individual oil and gas basins can vary widely, ranging from around 1% of gross gas production to nearly 8%[53]. Any estimates around upstream methane emissions therefore should be basin-specific and not reliant on a single nationwide default

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[49] Directive (EU) 2024/1788 of the European Parliament and of the Council on common rules for the internal markets for renewable gas, natural gas, and hydrogen (June 2024) https://eur-lex.europa.eu/eli/dir/2024/1788/oj

[50] Department for Energy Security & Net Zero, *UK Low Carbon Hydrogen Standard* pg. 84(December 2023), https://assets.publishing.service.gov.uk/media/6584407fed3c3400133bfd47/uk-low-carbonhydrogenstandard-v3-december-2023.pdf

[51] IPCC Sixth Assessment Report (2021) https://www.ipcc.ch/report/ar6/wg1/

[52] Hauglustaine, Paulot, et al, *Climate Benefit of a Future Hydrogen Economy*, (November 2022) https://www.nature.com/articles/s43247-022-00626-z

[53] Environmental Defense Fund, *New Data Show U.S. Oil & Gas Methane Emissions Over Four Times Higher than EPA Estimates, Eight Times Greater than Industry Target* (July, 2024) https://www.edf.org/media/new-data-show-us-oil-gas-methane-emissions-over-four-times-higher-epa-estimates-eight-times

methane leak rate to avoid obscuring these large differences between basins and underestimating greenhouse gas emissions.

Accounting for the impact of both hydrogen and methane emissions can dramatically affect the overall climate benefit of hydrogen – and even whether it reduces overall emissions. For fossil-based hydrogen, a moderate level of hydrogen losses (10%) combined with upper end methane leakage (5.4%) can actually lead to an increase in warming in the near term by up to 50% compared to the fossil fuel applications they are replacing[54]. For hydrogen produced via renewable powered electrolyzers, this amount of hydrogen losses could still reduce near-term benefits by 25%[55]. CARB therefore should require manufacturers to account for both hydrogen and basin-specific upstream methane emissions associated with hydrogen use in the Incentive Allocation application process to substantiate any emission reductions claimed.

c. *Ensure all electrolytic hydrogen eligible for the Incentive Allocation is 45V compliant*

Any electrolytic hydrogen eligible for the Incentive Allocation must comply with the final 45V rules established by the U.S. Department of Treasury and the Internal Revenue Service. If eligibility includes imported hydrogen, CARB should ensure that such hydrogen is also 45V compliant. While electrolytic hydrogen produced within California is subject to the statewide emissions cap, imported hydrogen may not be from a jurisdiction with a cap on electricity sector emissions, potentially resulting in higher production emissions out-of-state. Ensuring imported hydrogen meets the same high-integrity standard as in-state production prevents such an increase in emissions.

d. *Hydrogen use should only be eligible for Incentive Allocation in applications where electrification is not a feasible alternative*

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[54] Sun, T., Shrestha, E., Hamburg, S. P., Kupers, R., & Ocko, I. B. *Climate impacts of hydrogen and methane emissions can considerably reduce the climate benefits across key hydrogen use cases and time scales.*(2024). Environmental Science & Technology, 58(12), 5299-5309. https://pubs.acs.org/doi/10.1021/acs.est.3c09030

[55] Sun, T., Shrestha, E., Hamburg, S. P., Kupers, R., & Ocko, I. B. *Climate impacts of hydrogen and methane emissions can considerably reduce the climate benefits across key hydrogen use cases and time scales.*(2024). Environmental Science & Technology, 58(12), 5299-5309. https://pubs.acs.org/doi/10.1021/acs.est.3c09030

Hydrogen is energy intensive to produce, leak-prone, and costly, requiring 3-7 times more energy than electrifying directly.[56] As a result, hydrogen should be reserved for applications that are hard to electrify, such as serving as a feedstock replacement for steel and chemicals production or offering an alternative for high-heat industrial process energy. However, it brings certain drawbacks when used for process heat, particularly for low and medium temperatures. Hydrogen requires expensive infrastructure upgrades to handle its fast flame speed, high flame temperature, and low volumetric energy density. Industrial heat derived from hydrogen also needs large amounts of energy for electrolysis and combustion, requiring on the order of 1.5 times more clean electricity to provide the same industrial heat than electrification alone.[57] Hydrogen also has the potential to worsen NOx emissions without operational modifications due to its high flame temperature. Taken together, electrification is far preferable when possible to increase efficiency and minimize climate and social impacts. Heat pumps offer a more efficient alternative for temperatures up to 200°C.[58] For higher process heat needs, thermal batteries convert electricity into heat up to 1700°C.[59] To avoid directing hydrogen to where it is not needed, CARB should require manufacturers to document that electrification is not technically or economically feasible before permitting hydrogen use within the Incentive Allocation.

e. *Eligibility for Incentive Allocation should be determined independently for each hydrogen production process, consistent with 45V*

Eligibility for hydrogen use should be determined for each hydrogen process separately. This approach prevents emissions reductions achieved in one process (which might yield near-zero emissions) from being combined with higher-emitting hydrogen production processes, which would otherwise obscure actual emissions produced. By

[56] Sun, T., Shrestha, E., *Rule #1 of deploying hydrogen: Electrify first* (2023) https://blogs.edf.org/energyexchange/2023/01/30/rule-1-of-deploying-hydrogen-electrify-first/
[57] Esposito, Dan., *Hydrogen Policy's Narrow Path* (August 2024) https://energyinnovation.org/wp-content/uploads/Hydrogen-Policys-Narrow-Path-Delusions-and-Solutions-2.pdf
[58] Esposito, Dan., *Hydrogen Policy's Narrow Path* (August 2024) https://energyinnovation.org/wp-content/uploads/Hydrogen-Policys-Narrow-Path-Delusions-and-Solutions-2.pdf
[59] Id.

treating processes separately, CARB would encourage strategies that result in real emissions reductions rather than relying on emissions accounting gamesmanship.

VI. Enhance Electricity Affordability Through Climate Credit Reforms

The California Climate Credit is one of the most important ways households see the affordability benefits of the Cap-and-Invest program. Since 2014, households have received over $17 billion in credits on their electric and natural gas utility bills,[60] providing important bill savings to households and helping to offset rising electricity costs. The California Climate Credit has been a critical source of relief on utility bills, particularly for low- and moderate-income households, and plays an important role in demonstrating to Californians how climate policy is working to both cut emissions and support affordability.

The Cap-and-Invest rulemaking at CARB and the California Public Utilities Commission (CPUC) rulemaking to update the California Climate Credit present important opportunities to enhance these affordability benefits. The Cap-and-Invest regulation determines how much of the program's allowance value is allocated to utilities and broadly how the revenue from that allocation may be used, while the CPUC rules determine the specifics around how utilities use, distribute, and communicate the benefits of allowance revenue to customers.

EDF encourages CARB to finalize regulatory updates that maintain and enhance household affordability provisions in the Cap-and-Invest program. As the program cap is reduced in line with the state's climate targets, EDF recommends CARB (a) allow for electric allocation revenues to be returned to ratepayers in a volumetric manner, presenting an opportunity for Cap-and-Invest to directly lower electric rates; and (b) accelerate the transition from gas allocation to electric utilities while ensuring this transition is designed to provide net benefits to low- and moderate-income ratepayers.

[60] See the Public Utilities Commission webpage, "Greenhouse Gas Cap-and-Invest Program" (accessed March 9, 2026). https://www.cpuc.ca.gov/industries-and-topics/natural-gas/greenhouse-gas-cap-and-trade-program.

a. *CARB Should Adopt Proposed Revisions that allow Volumetric Credits for Electric Customers*

Currently, the regulation bars utilities from returning allowance proceeds to ratepayers in a volumetric manner. The ISOR proposes to remove this prohibition for electric allocation to investor-owned utilities (IOUs).[61] EDF supports this proposed change, which would allow the CPUC to consider a wider range of affordability strategies, including whether IOUs should use Cap-and-Invest proceeds to directly reduce electricity rates. This approach could unlock greater affordability benefits[62] and help households power their cooling, heating, cooking, and transportation with more affordable electricity.

b. *Accelerate the Transition from the Gas Climate Credit to an Enhanced Electric Climate Credit, While Ensuring Low- and Moderate-Income Customers are Protected*

Each year, the Cap-and-Invest Program allocates allowances to electrical distribution utilities (EDUs) calibrated to mitigate the program's cost impact to electric customers, and allocates allowances to natural gas suppliers (NGSs) in proportion to the program's overall declining emissions cap. To minimize ratepayer impacts and align with California's climate goals, AB 1207 requires CARB to transition allowance allocation from gas corporations to electrical distribution utilities on or before January 1, 2031.[63] This transition will shift this portion of Cap-and-Invest revenue from directly lowering residential natural gas bills to lowering residential electricity bills, where these revenues can have the greatest benefit in addressing household energy costs. However, the ISOR proposes to transition allocation from investor-owned gas (gas IOUs) to EDUs between 2029 and 2036, starting with 20% of the allocation that would have been distributed to gas IOUs in 2029 and increasing by 10% each year. While it is reasonable to phase this transition in over multiple years, EDF encourages CARB to accelerate the transition from allocation to gas IOUs to EDUs.

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[61] Appendix A-1 Proposed Regulation Order, p. 225.
[62] Borenstein, Severin. "Spreading the Cap-and-Trade Wealth" Energy Institute Blog, November 10, 2025, https://energyathaas.wordpress.com/2025/11/10/spreading-the-cap-and-trade-wealth/.
[63] Health and Safety Code Section 38562(c)(2)(G)

The delayed timeframe set out in the ISOR is a missed opportunity to provide additional near-term relief on electricity bills. Importantly, shifting allocation from gas IOUs to EDUs does not change the overall amount of utility allocation and associated ratepayer benefits, but it focuses the proceeds on tackling electricity costs, rather than continuing to split ratepayer revenues into smaller climate credits across electric and natural gas bills. Overall, as the transition in allocation is implemented, EDUs will still receive an allowance allocation calibrated to mitigate the program's costs to customers, *plus* additional allowances that otherwise would have been distributed to gas IOUs. As a result, the gas climate credit will be phased out over time as gas IOUs are no longer allocated allowances, while the electric climate credit will be enhanced as EDUs are "over-allocated" allowances beyond the amount needed to mitigate program costs. Accelerating this transition will make significantly more revenue available to tackle electricity costs in the near term. For example, if CARB starts this transition in 2027, two years earlier than proposed in the ISOR, it would free up Cap-and-Invest revenue to provide near-term relief on household electric bills next year. Accelerating the timeline for implementing this "over-allocation" to EDUs could also enable CARB to backfill allowances for EDUs that are proposed to receive fewer allowances through 2030 under the ISOR proposal than previously anticipated. Given this important opportunity to meaningfully tackle electricity costs, **EDF encourages CARB to accelerate the transition from gas IOU allocation to EDUs in order to provide greater near-term relief on household electric bills.**

As CARB implements this transition, **EDF recommends CARB design the allocation transition in a way that ensures low- and moderate-income customers are "made whole" across their electric and gas bills**. For an individual customer, this means receiving an increase in their electric climate credit that is equal to or greater than the decrease in their gas climate credit. EDF recognizes that the distribution, eligibility, and other issues specific to how the climate credit is allocated among different types of customers is largely implemented through the CPUC (for investor-owned utility climate credits). However, EDF recommends that CARB include the following foundational guidelines in the regulatory updates: (a) require that EDUs prioritize benefits to low-income residential customers for the additional allowance value received from the gas

IOU allocation transition; and (b) require that gas IOUs prioritize benefits to low-income residential customers for any allowances that remain as allocation is transitioned from gas IOUs to EDUs. These provisions can help ensure that, as the transition is implemented, low-income customers are the first to see the benefits of a larger electric climate credit and are the last to see the reduction and phaseout of the gas climate credit. Moreover, the manner in which the gas IOU allocation is distributed among EDUs has important implications for customers.[64] In the ISOR, CARB proposes to distribute the additional allowances among EDUs that have residential customers based on their share of total retail sales.[65] EDF encourages CARB to evaluate implementation of these provisions on an ongoing basis and if, in the future, CARB determines a different approach for distributing the "over-allocation" allowances among EDUs would better protect low-income customers (such as allocation based on percentage of low- and moderate-income households), CARB should propose updates.[66]

VII. Adopt Proposed Approach for Allowance Removals Equal to Offsets Turned in for Compliance.

EDF supports CARB's implementation of the AB 1207 direction to remove allowances from the budget equal to the number of offsets used for compliance. By ensuring that each offset used corresponds to an allowance removed from circulation, this approach preserves the integrity of the emissions cap and ensures that total covered emissions don't exceed the cap as a result of offset use. This update to the program, often known as "offsets under the cap" also represents a modest but welcome increase in program ambition – if this approach had been implemented prior to the last compliance period, for example, we would have seen a cumulative 26M fewer allowances in circulation.[67]

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[64] Depending on how much additional allocation each EDU receives, some gas customers may receive net benefits (if their EDU increases the electric climate credit more than their gas utility reduces the gas climate credit), while others may experience the opposite.
[65] Appendix A-1 Proposed Regulation Order, p. 221.
[66] As gas allocation fully transitions to EDUs, CARB could evaluate whether distributing the allocation to EDUs proportional to their share of total *low-income* customers would be feasible and if such an approach would help ensure that low-income customers are "made whole."
[67] https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/meetings/nc_CapInvestWorkshop_October2925.pdf

While the increase in program ambition represented by moving offsets "under the cap" is relatively small, every reduced allowance in circulation represents one fewer ton of emissions that will be contributed to the atmosphere, and each ton of reductions represents a step towards a safer climate future for Californians. We support the implementation of this important provision, and CARB's proposal seems to be an effective means of avoiding the concerns of irregular drop-offs or oscillations in revenue raised by other commenters in this rulemaking process.

This positive step on offsets underscores a broader principle of this program: all compliance pathways within the program must be designed to preserve the environmental integrity of the emissions cap. The program's credibility and its ability to ensure California meets its climate targets depend on confidence that the program will deliver the abatement it promises.

VIII. Maintain Environmental Integrity at the Price Ceiling.

CARB's Proposed Amendments include an update to the definition of a Price Ceiling Unit (PCU) and the destination of revenue generated by the sale of PCUs. Prior to the program's 2025 reauthorization, revenue from price ceiling unit sales was required to be used to purchase at least an equivalent ton-for-ton quantity of emissions reductions. This preserved the cap's integrity even in the event of PCUs being sold, as CARB could issue unlimited PCUs to cover all outstanding emissions obligations, which would undermine the integrity of the emissions cap without a ton-for-ton abatement requirement. AB 1207 replaced that requirement with direction to make revenue from the sale of PCUs "available, upon appropriation by the Legislature, for purposes, including, but not limited to, providing direct rebates and investments to reduce household energy costs, including incentives to transition to zero-emission vehicles and energy efficient housing."[68]

While EDF shares the goal of supporting household affordability, the change of this key program provision has the potential to leave a massive gap in California's emissions

[68] Health and Safety Code § 38562(c)(2)(A)(II)(ii) (as amended by AB 1207), https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202520260AB1207

cap if not carefully addressed. Although the Legislature will ultimately decide how to allocate revenue from the potential sale of PCUs, CARB should make it clear that the environmental integrity of this program is a priority and must be maintained. To that end, **CARB should develop an approach or a set of options for the use of PCU revenue that both provides consumer benefits and maintains the environmental integrity of the cap, in the event the Legislature must appropriate price ceiling revenue in the future**. If implemented well, this could ensure that the market continues to avoid unlimited climate-warming emissions at the price ceiling while also providing important benefits to consumers and households.

For example, this could be achieved by issuing consumer rebates that have quantifiable emission reductions such as zero-emission vehicle (ZEV) and building electrification investments, as implied in AB 1207. By quantifying the emission reductions from these expenditures, measured by the associated emissions of the internal combustion vehicles replaced by additional ZEVs, CARB could identify and ideally avoid any potential remaining gap between emissions above the cap represented by PCUs and the tons of abatement expected from the revenue expenditures. This approach requires that CARB make assumptions about which decarbonization activities would have happened in the absence of this additional subsidy, and CARB would also need to verify that the decarbonization activity took place. It could therefore be practically challenging to ensure these investments sufficiently close the emissions gap in the event of PCU sales, creating more of an administrative burden for CARB, but with conservative assumptions this approach could be consistent with the aim of preserving environmental integrity while also delivering consumer benefits.

Alternatively, CARB could recommend that the Legislature appropriate a portion of the price ceiling revenue to purchase reductions to offset PCUs, in line with AB 398, with the remainder of revenue returned directly to consumers via rebates as is suggested in AB 1207. This is likely the easiest option for CARB to implement, considering that offset protocols are already approved.

The program's core strength is its firm, declining cap on climate pollution which guarantees covered emissions decline in line with California's climate targets even if other policies fall short or face delays. The backstop provided by Cap and Invest is

weakened, however, if the design of the program's price ceiling allows for unlimited issuance of compliance instruments without ensuring equivalent emissions reductions.

While CARB may not have the authority to create or manage funds, and it is uncertain when or if ever the Legislature would appropriate price ceiling revenue, it is essential to establish a pathway well before it is ever needed to maintain the integrity of the cap so that this world-leading Cap-and-Invest Program remains a model, and a future linked partner, for other jurisdictions.

IX. Looking Forward – Advancing Linkage

CARB's thorough approach to the implementation of this program reflects the importance of ensuring that California's Cap-and-Invest Program remains durable, predictable, and effective. Increasing the stringency of allowance budgets, reinforcing market integrity, and providing regulatory certainty are all essential to maintaining long-term confidence in the program's ability to deliver cost-effective emissions reductions at the pace required to meet our targets. Just as important is ensuring that the program continues to evolve in ways that enhance its stability and resilience over time. In that context, advancing linkage with Washington is a natural and strategic next step**. We applaud the leadership demonstrated in the recently released draft linkage agreement from Washington, California, and Quebec, and encourage CARB to move expeditiously to initiate the processes necessary to formally pursue linkage with Washington's Cap-and-Invest Program**.

Linking with Washington represents a critical next step for strengthening the long-term stability and effectiveness of California's Cap-and-Invest Program. A larger, linked market improves liquidity, reduces price volatility, and enhances overall market stability – core conditions for ensuring that regulated entities and market investors have confidence to make long-term clean energy and decarbonization investments. These benefits translate directly into program resilience, helping ensure the emissions cap functions as intended even during periods of economic uncertainty.

Linkage also reinforces long-term confidence in the program by signaling that California is committed to sustained leadership on climate policy and acting as a model for other states to follow. Durable markets depend both on strong rules and on clear forward momentum. Advancing linkage with Washington would demonstrate once again – following on California's 2013 linkage with Quebec – that compliance markets can grow in scope and impact over time, encouraging innovation, lowering compliance costs, and strengthening the credibility of Cap-and-Invest Programs as reliable frameworks for achieving cost-effective emissions reductions. Linkage is a powerful tool for climate leadership across state borders, and California can help establish a scalable model for regional cooperation that other jurisdictions can join.

Expanding coordinated climate action through linking Cap-and-Invest Programs is one of the best opportunities to scale-up climate action and collectively drive emissions reductions, accelerating progress toward the necessary levels of reductions that no single state can achieve alone. CARB should move swiftly from this rulemaking to taking the necessary steps to pursue linkage with Washington, achieving functional linkage no later than November 1, 2027. Timely action will sustain momentum and strengthen market confidence while ensuring California remains at the forefront of state-level climate leadership. Delays risk prolonging uncertainty and slowing investment at a moment when rapid progress is both economically and environmentally imperative.

Conclusion

California's Cap-and-Invest Program remains the backbone of the state's climate strategy and one of the most important tools available to deliver both emissions reductions and meaningful community benefits. This rulemaking is a pivotal opportunity to strengthen that backbone: by tightening the pre-2030 allowance budgets while still providing affordability benefits, updating allocation to reflect current economic data, enhancing household electricity affordability, safeguarding the integrity of the cap, and advancing toward linkage with Washington.

At a time of escalating climate impacts and a complete abdication of climate action from the federal government, California's leadership must be both durable and

decisive. EDF urges CARB to adopt a final rule that tightens the emissions cap, preserves affordability benefits for the California households most in need of relief, maintains environmental integrity across all program mechanisms, and positions the state to move forward with linkage and cross-border climate leadership.

We appreciate CARB's careful work on this proposal and look forward to continued engagement to ensure that California's Cap-and-Invest Program remains a world-leading model for effective and durable climate action.

Sincerely,

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