

# Cap-and-Trade Program Workshop

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JULY 10, 2024



# Para Interpretación en Español/ For Spanish Interpretation

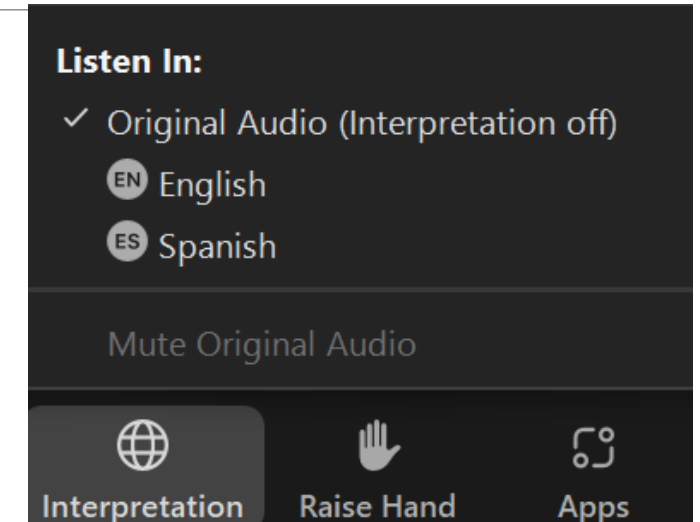
## Para seleccionar interpretación en español

- Haga clic en el icono de interpretación (globo) en la barra de herramientas de Zoom en la parte inferior de la pantalla
- Seleccione español (Spanish)
- Seleccione "Silenciar audio original" (Mute Original Audio) para escuchar solo la interpretación en español y no en el lenguaje original al mismo tiempo

## To select Spanish interpretation

- Click interpretation icon (globe) in Zoom toolbar at bottom of screen
- Select Spanish
- Select "Mute Original Audio" to only hear Spanish interpretation and not original speaker at same time
- Globe icon will appear after instructions provided in Spanish

Select English in the interpretation menu to enable hearing simultaneous English interpretation of any comments provided in Spanish. If you are listening in English, do not select Mute Original Audio.



# Cap-and-Trade Program Workshop

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# Workshop Logistics

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- Workshop materials and comment docket available at Cap-and-Trade Meetings and Workshops webpage
  - <https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cap-and-trade-meetings-workshops>
- Written feedback may be submitted to comment docket open through July 31 at 11:59 p.m. Pacific Time
- Public comment period after staff presentation
  1. Use the “Raise Hand” function in the toolbar at bottom of your screen
  2. When staff call your name, please “Unmute” and introduce yourself
  3. Commenters will be given 2 minutes. No ceding time to others



# Agenda

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- Context for Cap-and-Trade Program updates
- Development of budget scenarios
- Smooth transition to post-2030 Program
- Public comment period

# Context for Cap-and-Trade Program Updates and Budgets

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# California Context for Cap-and-Trade Program Updates

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- **AB 1279:** Reduce anthropogenic GHG emissions by 85% below 1990 levels and achieve carbon neutrality by 2045
- **2022 Scoping Plan Update:** Indicated need to increase 2030 emissions reductions to support achievement of 2045 climate targets
- **Updated AB 32 GHG Emission Inventory:** Adjustment to align emissions from all sectors with third-party verified data
- Implementation needs and ongoing experience

CARB held 6 workshops and 2 community meetings in 2023 and 2024 to develop and discuss concepts aligned with State goals

# Initial Concepts for Potential Updates

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- **Increasing Program stringency** and supporting a long-term carbon price signal aligned with the State's 2045 climate targets
- **Review market rules and cost-containment features** in the context of allowance budget adjustments to support liquidity, enhance market protections, and ensure transparent pricing
- **Account for evolution of electricity sector** in the Western U.S.
- **Updates to minimize emissions leakage** and continue to support decarbonization and innovation in California's industrial sector and fuels sector
- **Updates to offset credit provisions** and protocols to streamline implementation and reflect best available science



**CARB must review potential updates to Program provisions in the context of the overall Program and not in isolation.**

**Cumulative impacts are evaluated in the context of overall Program stability and the need for a steadily increasing price signal.**

# Development of Allowance Budget Scenarios

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# History of Cap Setting in Cap-and-Trade Program

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## **Initial allowance budgets: 2010 Rulemaking**

- Determined by projected emissions for year that covered source category entered Program

## **2020 cap: 2010 Rulemaking**

- Calculated by multiplying the 2020 AB 32 statewide target (a return to 1990 GHG levels) by the percent of emissions from the GHG Emissions Inventory estimated to be covered by the Program (77.5%)

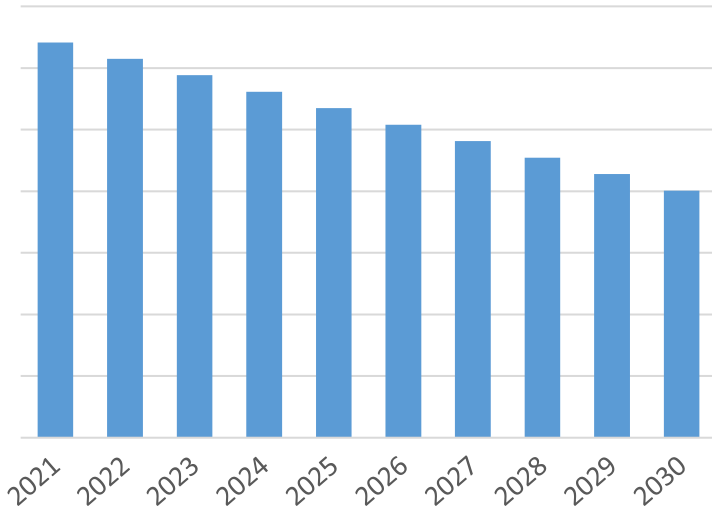
## **2030 cap: 2016 Rulemaking (similar to 2010 Rulemaking)**

- Calculated as 77.5% of statewide SB 32 target (40% reduction relative to 1990 levels by 2030)
- 2021-2030 caps set as a linear decline from 2020 cap to 2030 cap

**Staff evaluated a range of allowance budget scenarios through 2030 and the post-2030 Program.**

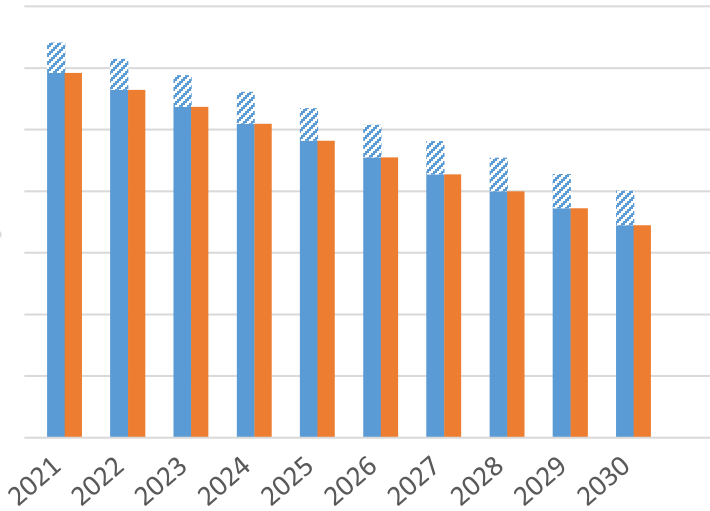
**The process to develop potential allowance budgets builds upon budget evaluations in the 2010 and 2016 rulemakings.**

# 2021-2030 Allowance Budget Scenarios: Initial Framework



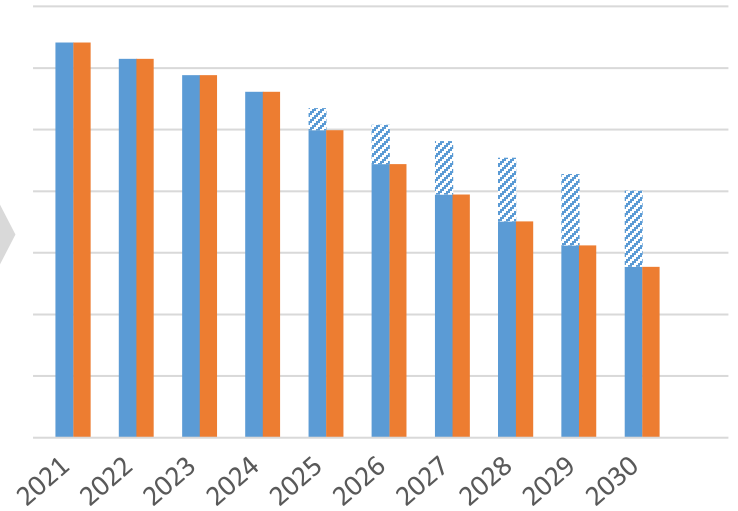
**Current 2021-2030  
Annual Budgets**

*Initial scenarios  
presented in July 2023*



**Hypothetical scenario:  
Linear decline 2021-2030**

- Cumulative budget supportive of state climate policy (orange bars)
- Determines cumulative removal target (hashed bars)



**Potential adjusted budget:  
All removals from 2025-2030**

- Cumulative budget supportive of state climate policy
- Same cumulative removal as hypothetical 2021-2030 scenario

# Initial Development of Hypothetical Allowance Budget Scenarios: 2021 Start Point

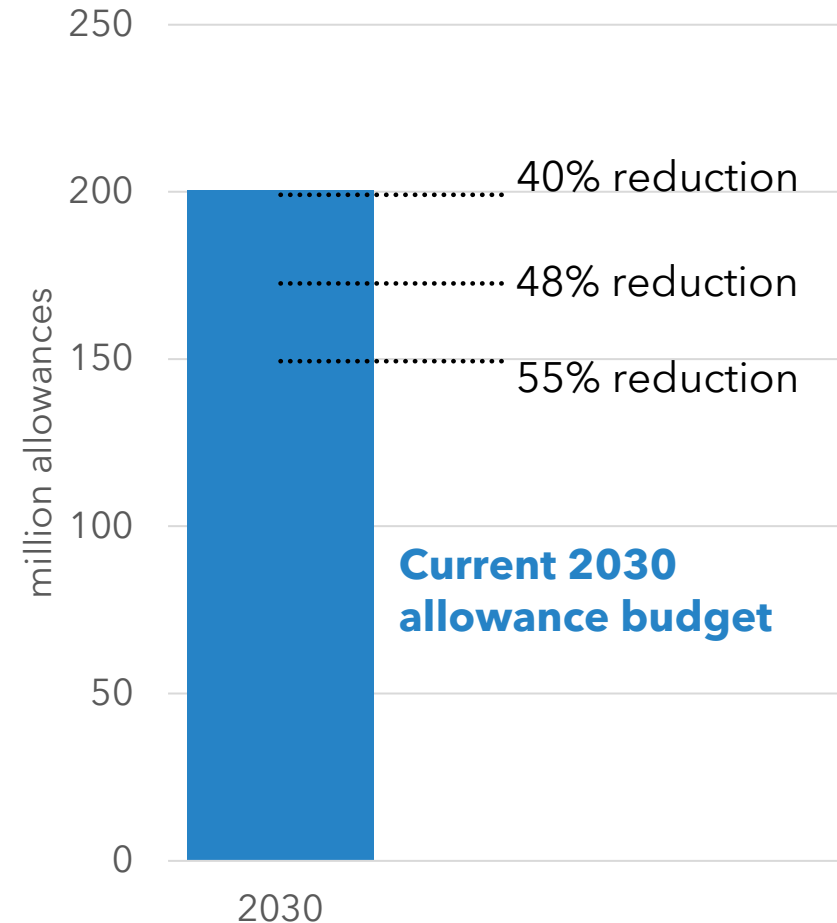
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- Adjust 2017 Scoping Plan Reference Scenario to reflect updates to GHG Inventory
- Reflects emissions projection that could have been used to establish 2021-2030 budgets during the 2016 Rulemaking
- 2022 ed. GHG Inventory lower than 2017 ed. GHG Inventory by ~13.7 MMTCO<sub>2</sub>e for data years 2012-2015
- Accounts for a more accurate calculation of emissions for 2012-2015, which impacted the 2017 Scoping Plan and the 2016 Rulemaking
- For details on method: [Cap-and-Trade Workshop July 27, 2023](#)

# Initial Development of Hypothetical Allowance Budget Scenarios: 2030 End Points

The following end points reflect the emissions reduction targets from 1990 levels by 2030:

- 40% reduction by 2030: 199 MMTCO<sub>2</sub>e
  - Adjusted AB 32 GHG Emission Inventory warrants a review of existing caps
- 48% reduction by 2030: 173 MMTCO<sub>2</sub>e
  - 2022 Scoping Plan Update highlighted accelerated 2030 target
- 55% reduction by 2030: 149 MMTCO<sub>2</sub>e
  - With 6 years until 2030, this represents an upper bound



# Initial Proposed Allowance Budgets: 2021-2030, with GHG Inventory Adjustment

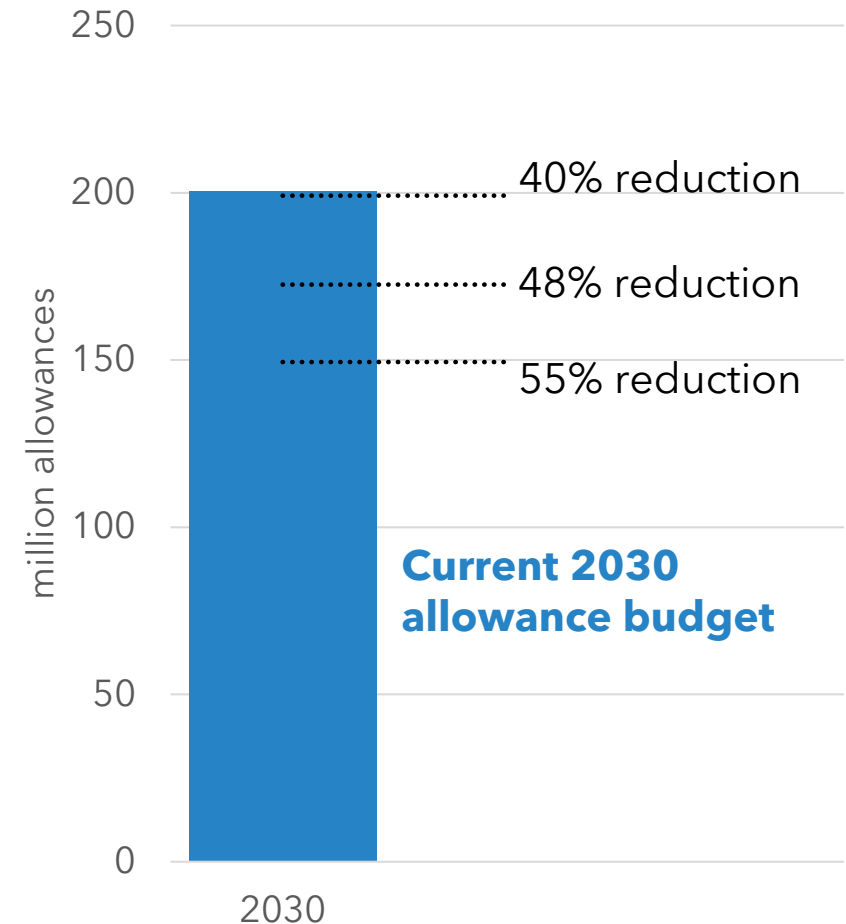
Target	Adjusted Inventory Scenario	
	Estimated Total 2021-2030 Allowances	Estimated Removal from 2021- 2030 Budgets
40%	2,490	115
48%	2,340	265
55%	2,215	390

Program was calculated to cover 77% of AB 32 GHG emissions sources for 2021-2030 scenarios



# Initial 2031-2045 Hypothetical Allowance Budget Scenarios: Starting Points

- Decline linearly from a 2030 value that is consistent with emission reduction target for the scenario to the 2045 target (30.3 million allowances)
- Cumulative 2031-2045 budget depends on the 2030 emission reduction target
- Process aligns with methods for 2013-2020 budgets in the 2010 rulemaking and 2021-2030 budgets in the 2016 rulemaking



# 2045 Allowance Budget Consistent with AB 1279 Target

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- Calculate the 2045 cap using the Scoping Plan Scenario estimate of 2045 covered sector (broad scope) emissions multiplied by ratio of 2021 covered emissions from MRR to the 2021 covered sector emissions from Scoping Plan Scenario
- Consistent with method for calculating 2020 cap in initial 2010 rulemaking
- The 2045 allowance budget is 30.3 million allowances, consistent with the AB 1279 85% reduction target in 2045
- The 2045 allowance budget is 47% of the 2045 statewide target; the share of AB 32 emission sources that are covered by Cap-and-Trade is expected to decrease during 2030-2045
- Provides long-term policy signal, may be subject to adjustments in future rulemakings

# Initial Cumulative Allowance Budgets: 2021-2045

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Target	Adjusted Inventory Scenario		
	Estimated Total 2021-2045 Allowances	Estimated Total 2021-2030 Allowances	Estimated Removal from 2021- 2030 Budgets
40%	4,125	2,490	115
48%	3,795	2,340	265
55%	3,505	2,215	390

# Standardized Regulatory Impact Assessment (SRIA) Overview

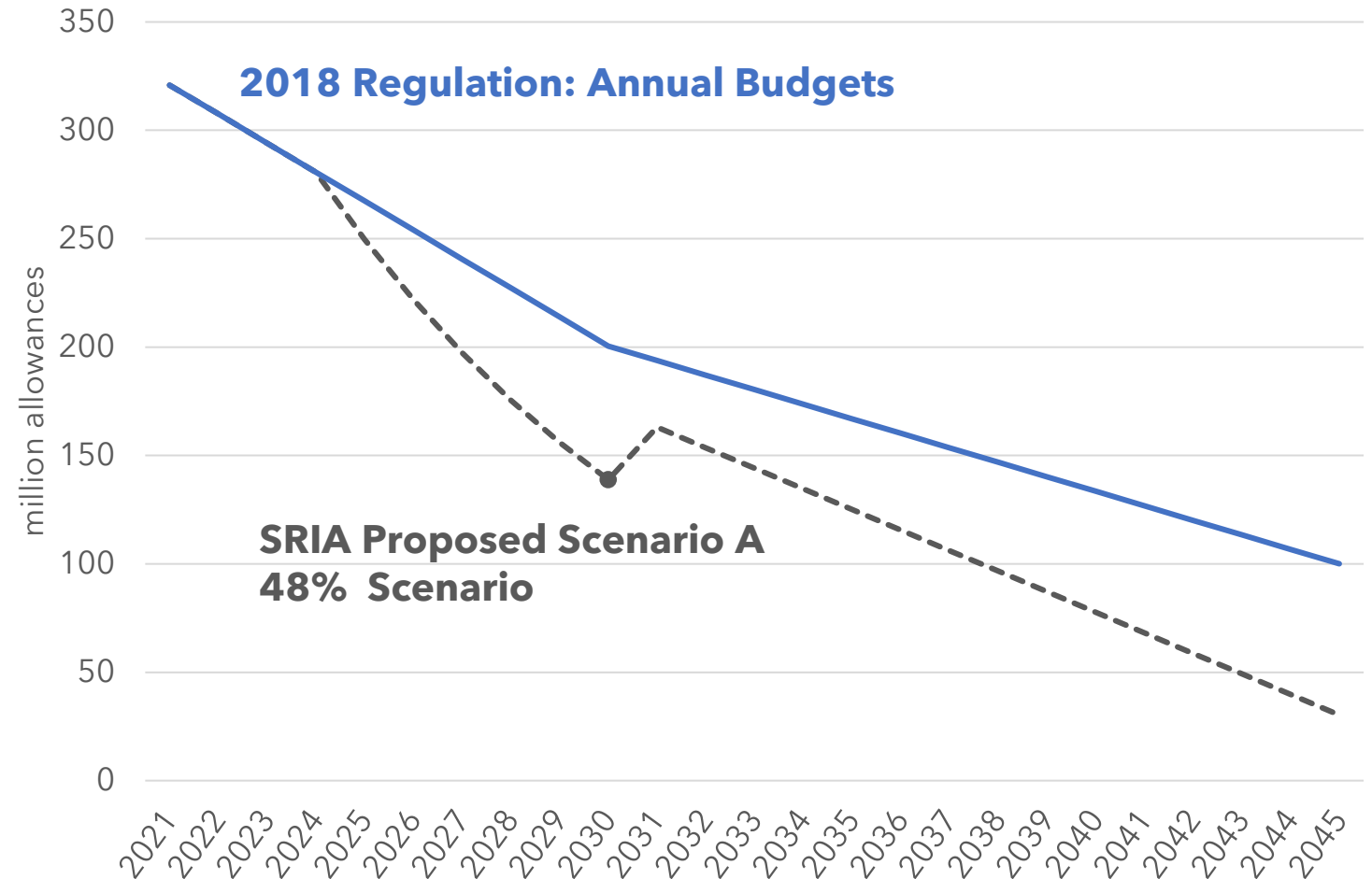
- Released April 9, 2024
- Initial economic evaluation of potential changes to the Program
  - Prepared using best information available at the time
  - May not reflect precise real-world potential impacts
- Not a formal staff proposal
- One of many steps CARB must take prior to updating the Regulation

## SRIA estimated benefits relative to baseline (2025-2046)

	Proposed Scenarios	Alternative 1	Alternative 2
2030 GHG Reduction Target (compared to 1990 levels)	48%	40%	55%
GHG Emissions reductions (MMTCO <sub>2</sub> e)	981	626	1,313
NOx reductions (short tons)	312,000	137,000	373,000
PM 2.5 reductions (short tons)	52,000	31,000	67,000

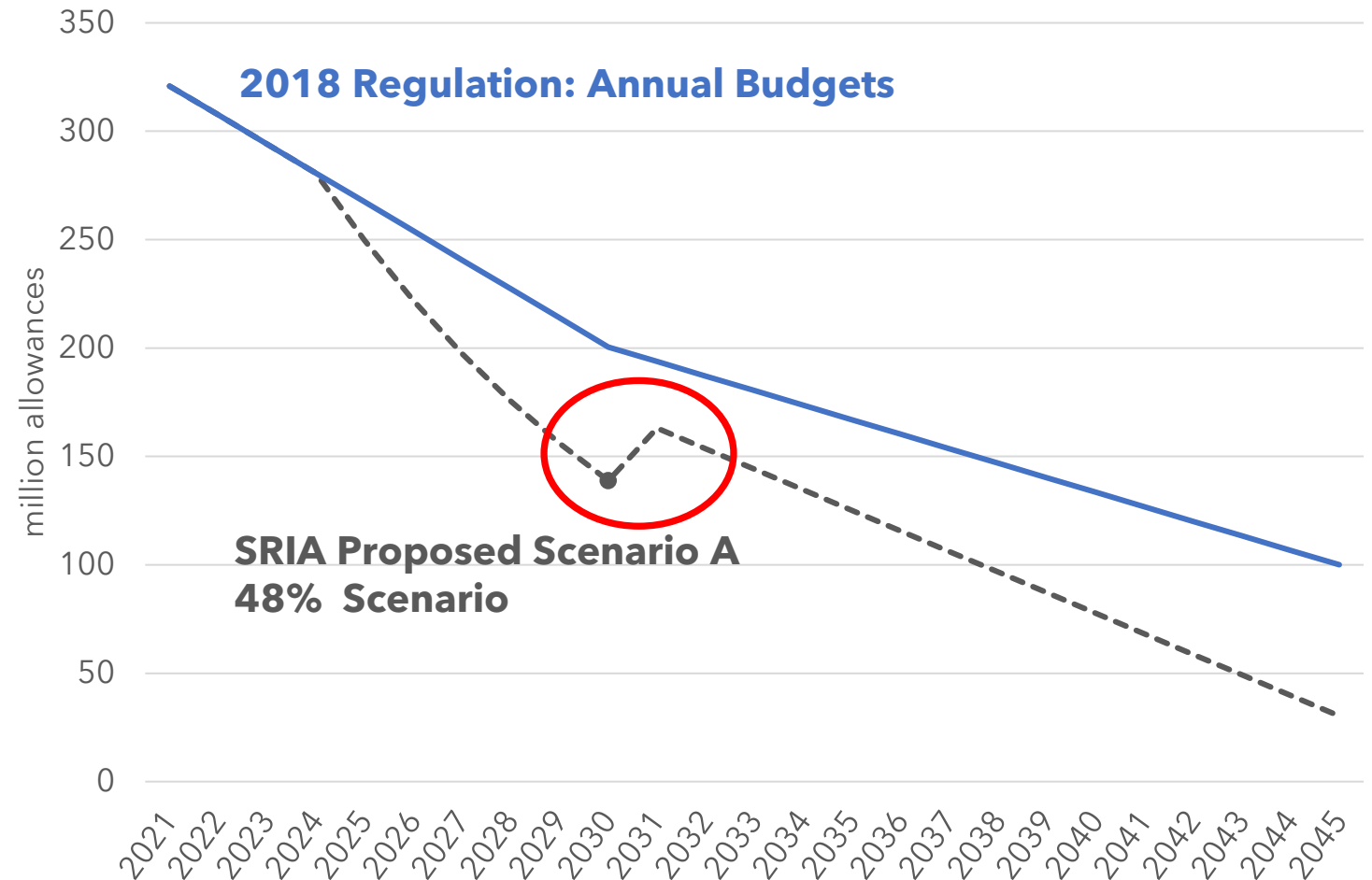
# SRIA Allowance Budget: 2021-2045

- Achieves cumulative allowance removals by adjusting annual budgets for 2025-2030
- Post-2030 budgets decline linearly from a 2030 value that is consistent with emission reduction target
- Potential for increase in annual budget from 2030 to 2031 to impact post-2030 Program



# 2030 to 2031 Transition Considerations

- Potential discontinuity:
  - Cap adjustment factors
  - Allowance allocation
  - Holding limits
  - Funds to GGRF
- Program goal: Achieve cumulative budgets and reductions for the potential 48% scenario while providing consistent treatment of covered entities and promoting a steady and well-functioning market



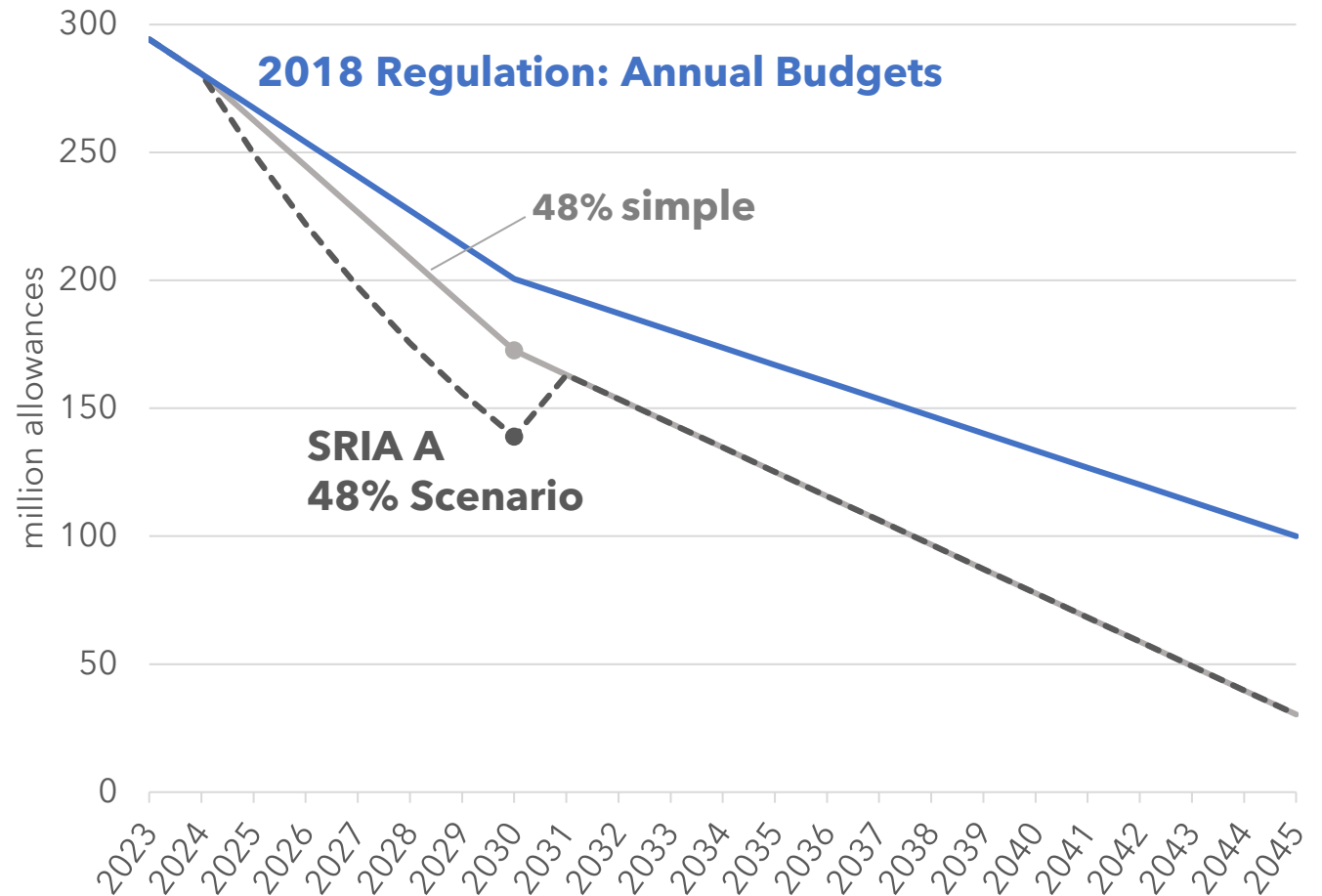
# Enabling a smooth transition to the post-2030 Program

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# Illustrative Simple 48% Target Scenario

Simple Target method:

- Calculates annual budgets in 2030 and 2045 directly from emission reduction targets
- Adjust 2025-2030 via a linear decline to 173 M allowances in 2030, derived from the 48% target
- Post-2030 budgets linearly decline to 30.3 M allowances in 2045, derived from the 85% AB 1279 target





# Cumulative Allowance Budget Comparison

Scenario	Estimated Total 2021-2045 Allowances*	Estimated Total 2021-2030 Allowances	Estimated Removal from 2021- 2030 Budgets
SRIA Alternative 1: 40%	4,125	2,490	115
SRIA Proposed: 48%	3,795	2,340	265
SRIA Alternative 2: 55%	3,505	2,215	390
<i>48% Simple Target</i>	3,960	2,510	100

**The cumulative Program budget using the 48% Simple Target method is not supportive of achieving the State's 2045 target set by AB 1279.**

**Removal of 115 million allowances through 2030 is needed to account for prior year GHG Emissions Inventory adjustments.**

**Further downward adjustments are needed to support increased ambition beyond the 40% reduction target for 2030.**

# CARB must balance considerations for Program updates

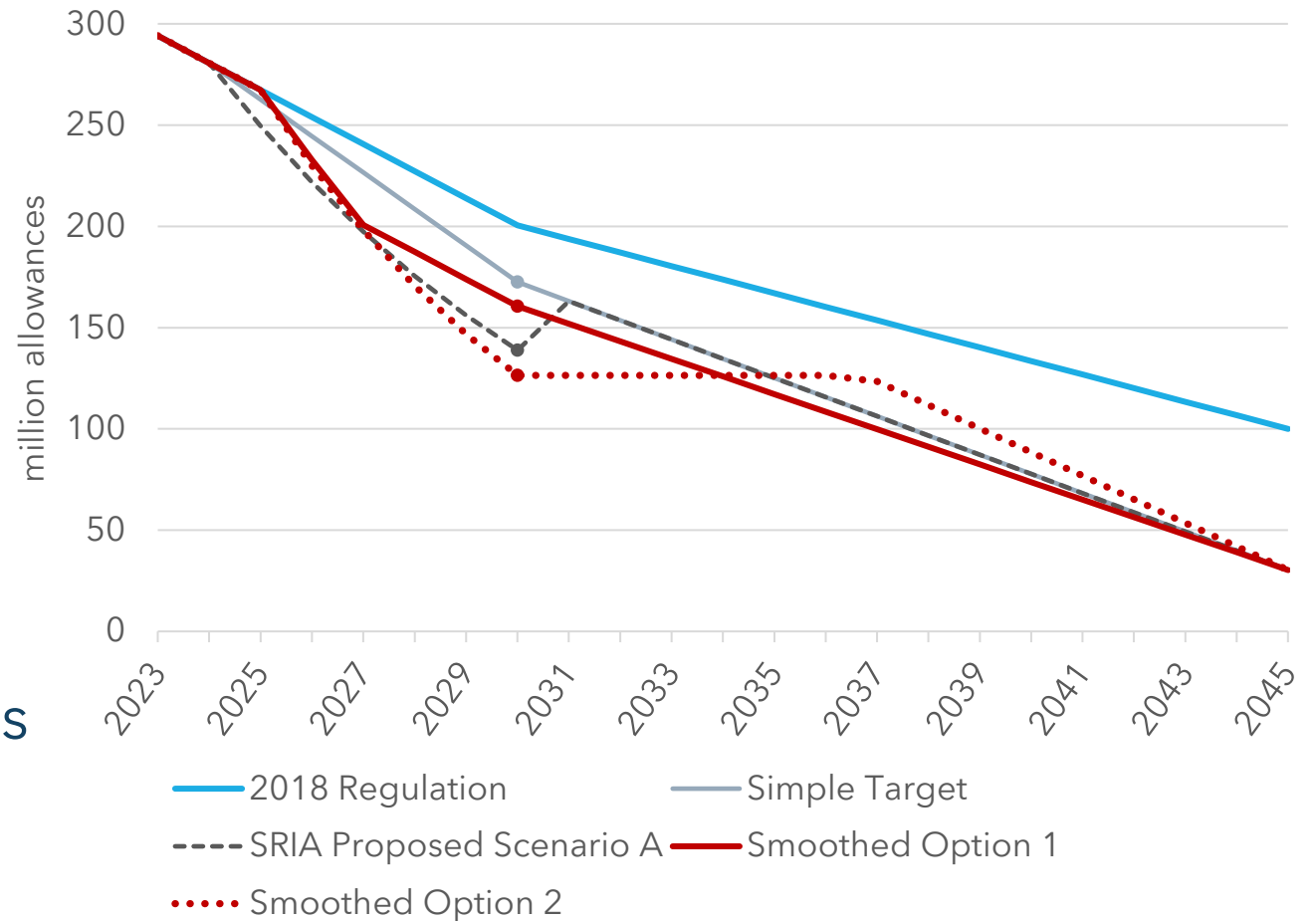
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- Supporting state climate targets
- Considering cost-effectiveness, economy-wide costs, technologically feasible
- Enabling a smooth transition to the post-2030 Program
- Minimizing the risk of emissions leakage
- Maintaining cost-containment mechanisms and protecting against price volatility
- Avoiding disproportionate impacts on low-income communities

Adjusted timeline to complete rulemaking by early 2025 means removals begin with 2026 vintage allowances

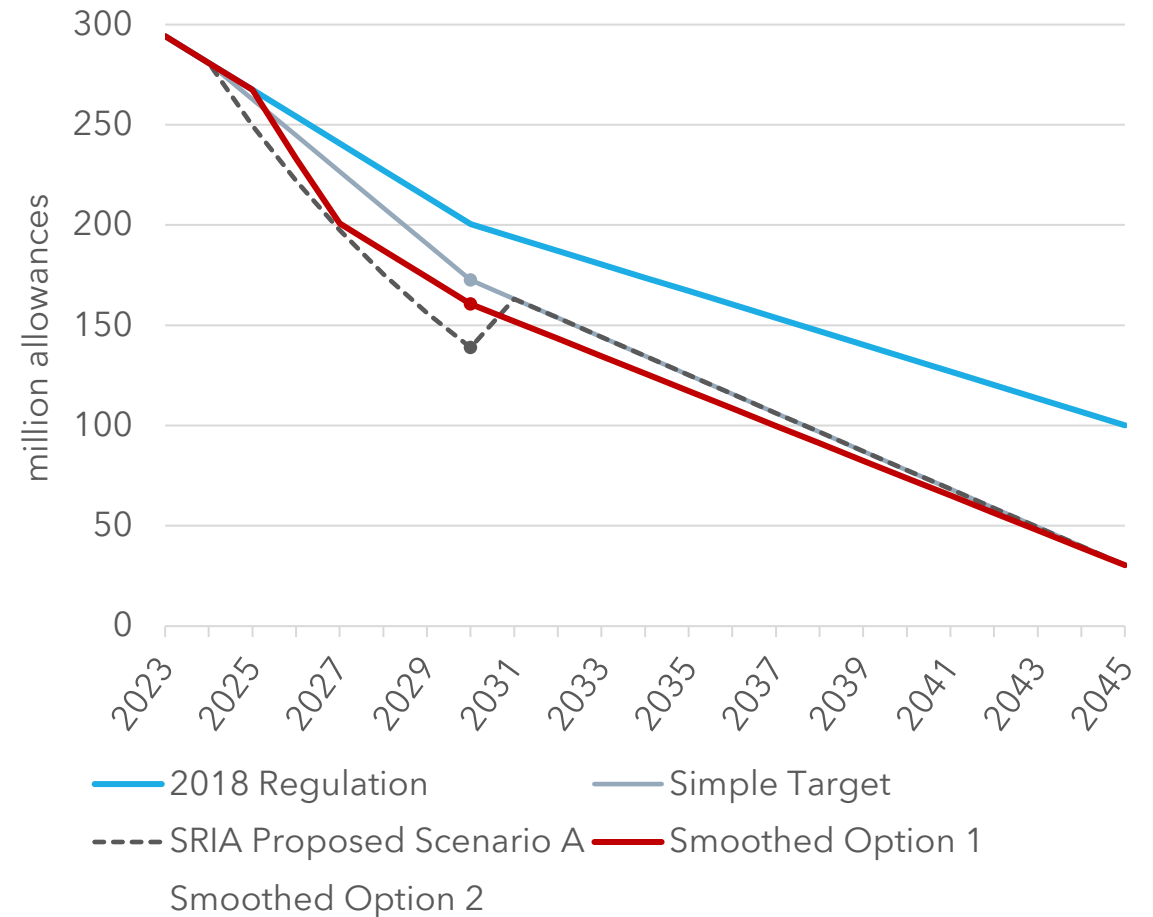
# Potential Smoothed Scenarios Consistent with 48% Target Cumulative Budgets

- Cumulative 2021-2045 allowance budgets aligned with the 48% reduction target
- Incent increased decarbonization investments this decade
- Avoid discontinuities in cap adjustment factors, allocation, holding limits, funds to GGRF
- Maintains all current allowances in cost-containment accounts
- Adjustments start for budget year 2026



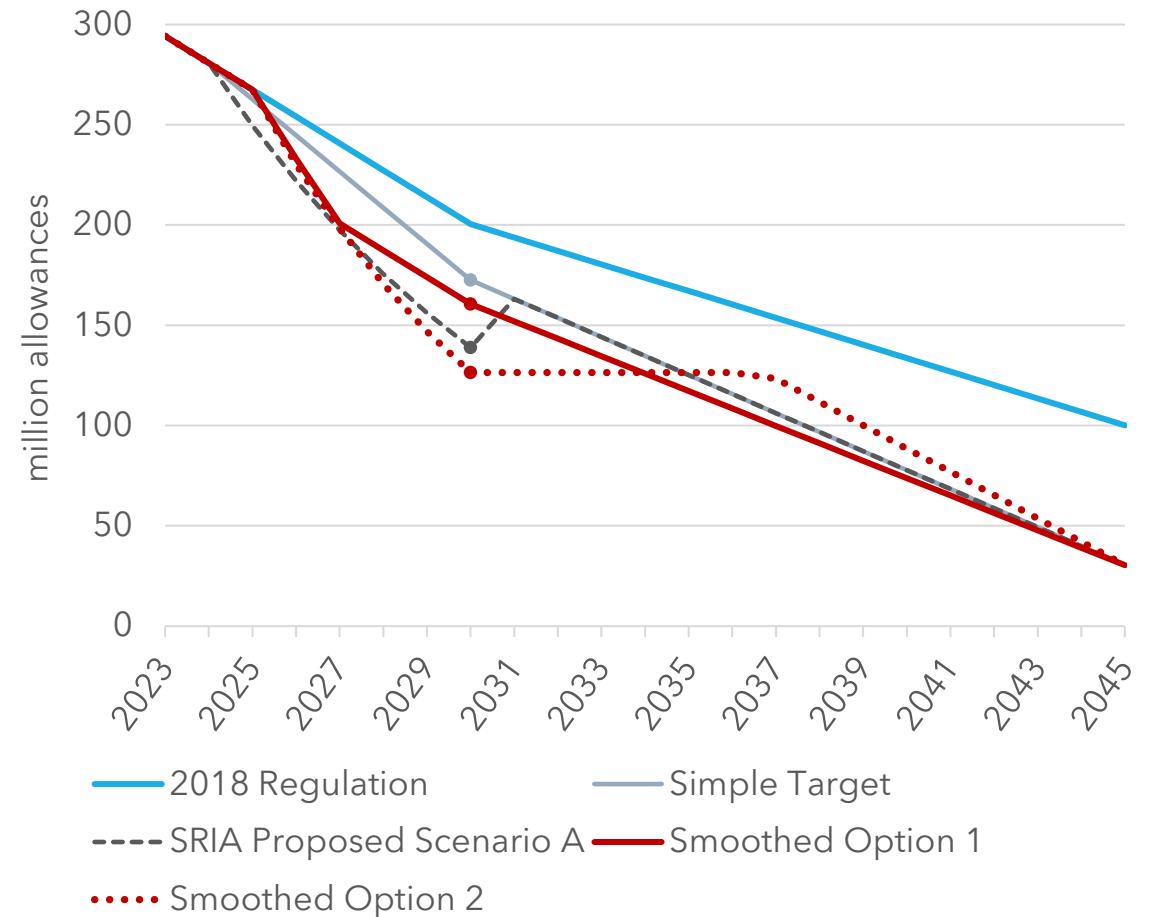
# Potential Smoothed Scenarios: Two Annual Budget Options (1 of 2)

- Option 1, Option 2, and SRIA Proposed Scenario A all have the same cumulative allowance budgets through 2045
- Option 1
  - 2026-2030: Removes 180 million allowances
  - Post-2030: Linear decrease to 2045 target
  - Moderation of near-term removal helps limit short-term impacts to economy, consumers, and ratepayers.
  - Least disruptive to regulated entity financial planning.



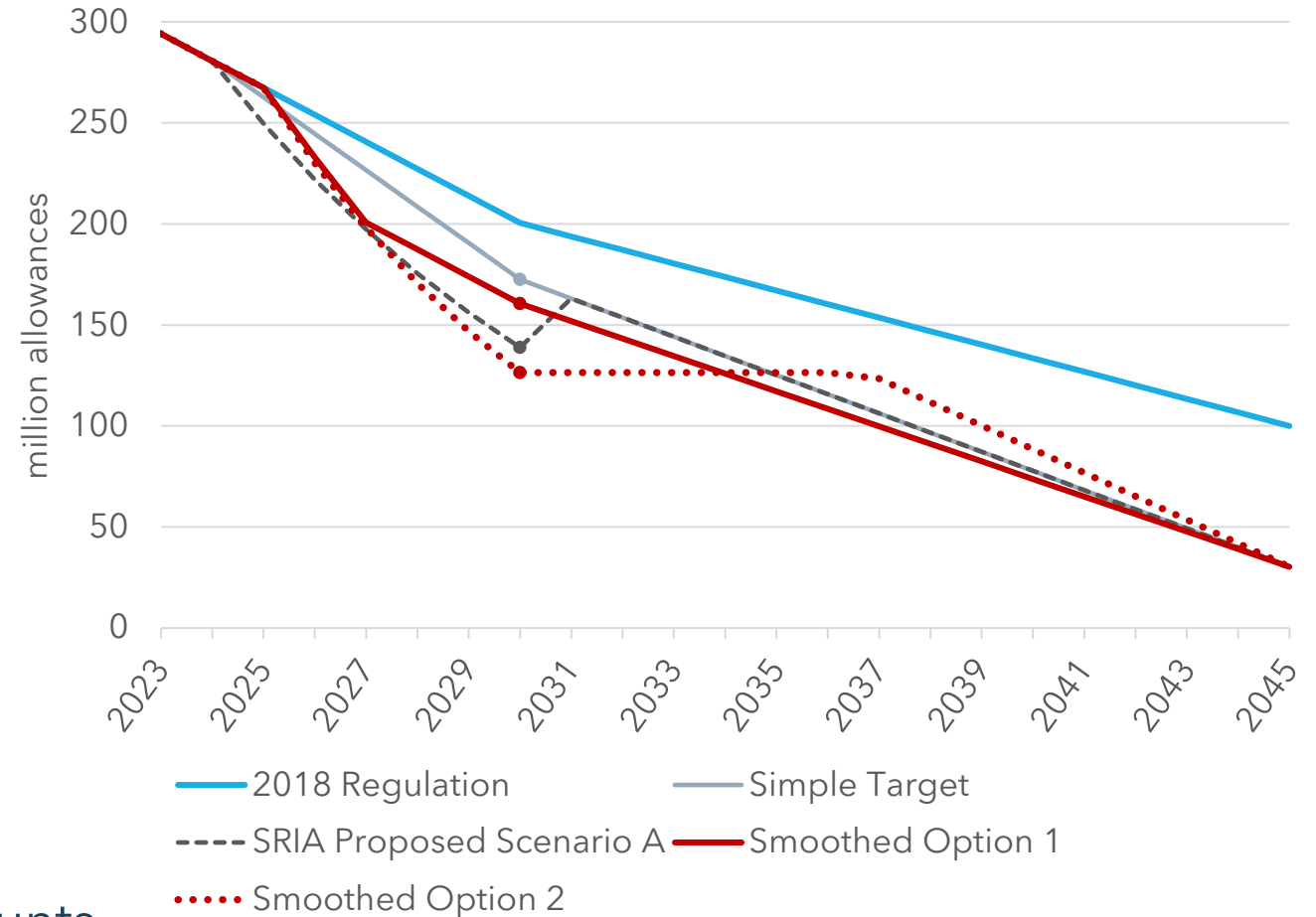
# Potential Smoothed Scenarios: Two Annual Budget Options (2 of 2)

- Option 1, Option 2, and SRIA Proposed Scenario A all have the same cumulative allowance budgets through 2045
- Option 1
  - 2026-2030: Removes 180 million allowances
  - Post-2030: Linear decrease to 2045 target
- Option 2
  - 2026-2030: Removes 265 million allowances
  - Post-2030: Remains at 2030 budget through 2036 then decreases to 2045 target



# Potential Smoothed Scenarios: Cap Adjustment Factors (CAF)

Year	Option 1	Option 2
2021	0.817	0.817
2022	0.783	0.783
2023	0.749	0.749
2024	0.715	0.715
2025	0.681	0.681
2026	0.593	0.586
2027	0.511	0.505
2028	0.477	0.434
2029	0.443	0.374
2030	0.409	0.322
<i>Avg. Annual % Reduced 2026-2030</i>	10%	14%



All removals from auction/allocation accounts.

# Feedback Requested

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- Support or concerns with Option 1 and 2
- Need for a smooth transition from 2030 to 2031
- Summary of potential implementation options if Regulation is in effect in 2025
  - *Option 1*
    - Remove 180 million allowances from 2026-2030
    - Moderation of near-term removal balanced by lower budgets through 2030s
    - 2026-2030 average annual % reduction: 10%; 2030 CAF: 0.409
    - Less steep decline through 2030 than SRIA Proposed Scenario A (11%)
  - *Option 2*
    - Remove 265 million allowances from 2026-2030
    - Achieves same removal through 2030 as SRIA Proposed Scenario A, in one fewer year
    - 2026-2030 average annual % reduction: 14%; 2030 CAF: 0.322
    - Steeper decline through 2030 than SRIA Proposed Scenario A (11%)

Option 1, Option 2, and SRIA Proposed Scenario A all have the same cumulative allowance budgets through 2045



# Next Steps

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Goal is regulatory certainty as soon as possible

- Inform planning by regulated entities for a more stringent 2030 target
- Inform planning to leverage recent federal incentives

## Tentative Schedule

- Late summer: Initial package released for 45-day public comment period
- Late 2024 - early 2025: Board Consideration
- Early 2025: Amended Regulation in effect

There will be multiple opportunities for public input after the rulemaking package has been released, including a 45-day public comment period.

# Questions and Feedback Session

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- Public Comment Instructions



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- Submit written feedback online through July 31 at 11:59 p.m. Pacific Time
  - Link to submit written feedback available at Cap-and-Trade Meetings and Workshops webpage
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# Additional Program Evaluations

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- Cap-and-Trade FAQ & Local Air Pollution  
<https://ww2.arb.ca.gov/resources/documents/faq-cap-and-trade-program>
- Allowance Supply Evaluation  
[BR 18-51 Cap-and-Trade Allowance Report](#)
- Recent Forest Offset Program Review  
[nc-CARBslides20221130.pdf](#)
- Cap-and-Trade Website  
[Cap-and-Trade Program | California Air Resources Board](#)

# Next Steps

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- Submit written feedback through 11:59 p.m. on July 31
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