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L E G I S L A T I V E A N A L Y S T ' S O F F I C E

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Cap-and-Trade Revenue: Issues for Legislative Consideration

Presented to:
Senate Committee on Environmental Quality
Hon. Bob Wieckowski, Chair
and
Select Committee on Climate Change and
AB 32 Implementation
Hon. Fran Pavley, Chair





Background—AB 32 and Cap-and-Trade

- ☑ **The Global Warming Solutions Act of 2006 (Chapter 488 [AB 32, Nunez/Pavley])**
 - Established the goal of reducing greenhouse gas (GHG) emissions statewide to 1990 levels by 2020.
 - Directed the Air Resources Board (ARB) to adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions by 2020.

- ☑ **Cap-and-Trade**
 - The cap-and-trade regulation places a “cap” on aggregate GHG emissions from large GHG emitters, such as large industrial facilities, electricity generators and importers, and transportation fuel suppliers.
 - Capped sources of emissions are responsible for roughly 85 percent of the state’s GHG emissions.
 - To implement the cap-and-trade program, ARB issues carbon allowances equal to the cap, and each allowance is essentially a permit to emit one ton of carbon dioxide equivalent. Entities can also “trade” (buy and sell on the open market) the allowances in order to obtain enough to cover their total emissions.

- ☑ **Administration Required to Develop Investment Plan Every Three Years**
 - With respect to spending auction revenue, the Investment Plan must: (1) analyze gaps, where applicable, in current state strategies to meeting the state’s GHG emission reduction goals and (2) identify priority investments that will facilitate the achievement of feasible and cost-effective GHG reductions.



Background—Auction Revenues and Expenditures

Cap-and-Trade Expenditures

(In Millions)

Program	2013-14	2014-15	2015-16 ^a
High-speed rail	—	\$250	\$600
Affordable housing and sustainable communities	—	130	480
Transit and intercity rail capital	—	25	240
Transit operations	—	25	120
Low carbon transportation	\$30	200	90
Low-income weatherization and solar	—	75	70
Agricultural energy and operational efficiency	10	25	40
Urban water efficiency	30	20	20
Sustainable forests and urban forestry	—	42	—
Waste diversion	—	25	—
Wetlands and watershed restoration	—	25	—
Other administration	2	10	31
Totals	\$72	\$852	\$1,691

^a Based on LAO projection of \$2.4 billion in revenue in 2015-16. The fund balance is projected to be \$1.6 billion by the end of 2015-16.



Allowance Auctions Generate Billions of Dollars in State Revenue

- The ARB has conducted 13 quarterly cap-and-trade auctions since November 2012—generating roughly \$3.5 billion in state revenue.
- We project the state will generate about \$2.4 billion in auction revenue in 2015-16 and \$2.3 billion in 2016-17.



How Has Auction Revenue Been Spent so Far?

- As shown in the figure above, about \$2.6 billion has been appropriated so far for various activities.
- Governor's 2016-17 budget includes a \$3.1 billion expenditure plan.



Legal Considerations



State Law Requires Auction Revenue Be Used to Facilitate GHG Reductions

- In addition, to the extent feasible, funds must be used to achieve other goals, such as providing economic, environmental, and public health benefits to the state.
- Chapter 830 of 2012 (SB 535, de León) requires that the Investment Plan allocate at least 25 percent of auction revenue to projects that benefit disadvantaged communities and at least 10 percent to projects located within disadvantaged communities.



State Constitution Likely Requires Revenue Be Used to Reduce GHGs

- Ongoing court case challenging the ARB's authority to collect auction revenue.
- In November 2013, the superior court ruled that ARB had authority to collect auction revenue. This ruling has been appealed, and final decisions from the appellate courts on these issues may take years.
- It is likely that the courts would require the state to target spending to GHG reduction activities since that is the primary goal of AB 32.



Policy Considerations—Regulation Intended to Limit Emissions



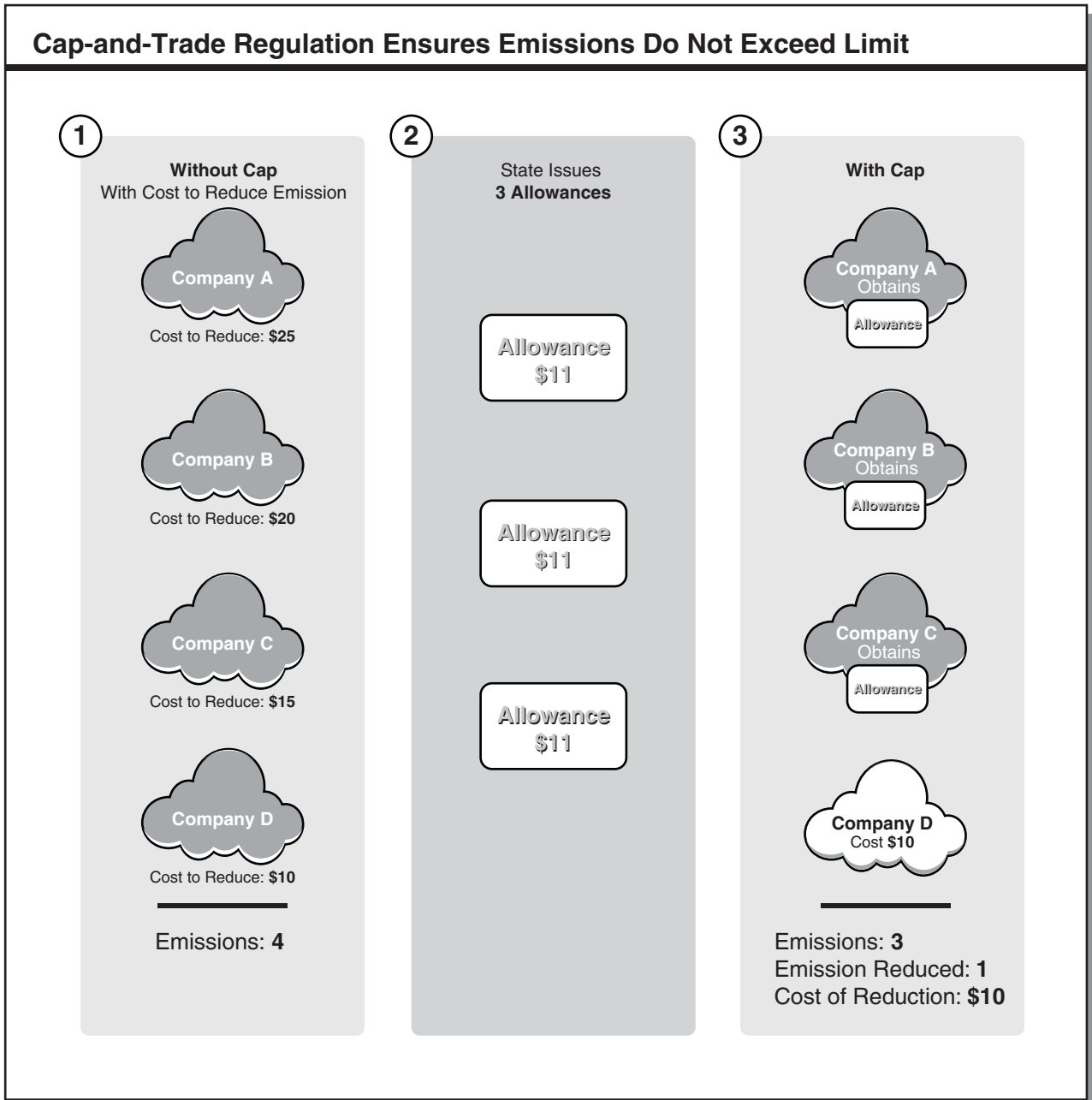
Cap-and-Trade Regulation Intended to Ensure State Meets GHG Goals and Provide Incentive for Cost-Effective Emission Reductions

- Overall emissions are limited by the number of allowances issued.
- Allowance prices provide incentive for cost-effective reductions.



Generating Additional Revenue Not a Primary Goal of Cap-and-Trade

- From an economic perspective, auction revenues are often thought of as a byproduct of cap-and-trade programs and not their primary goal.





Policy Considerations—Interaction Between Regulation and Spending



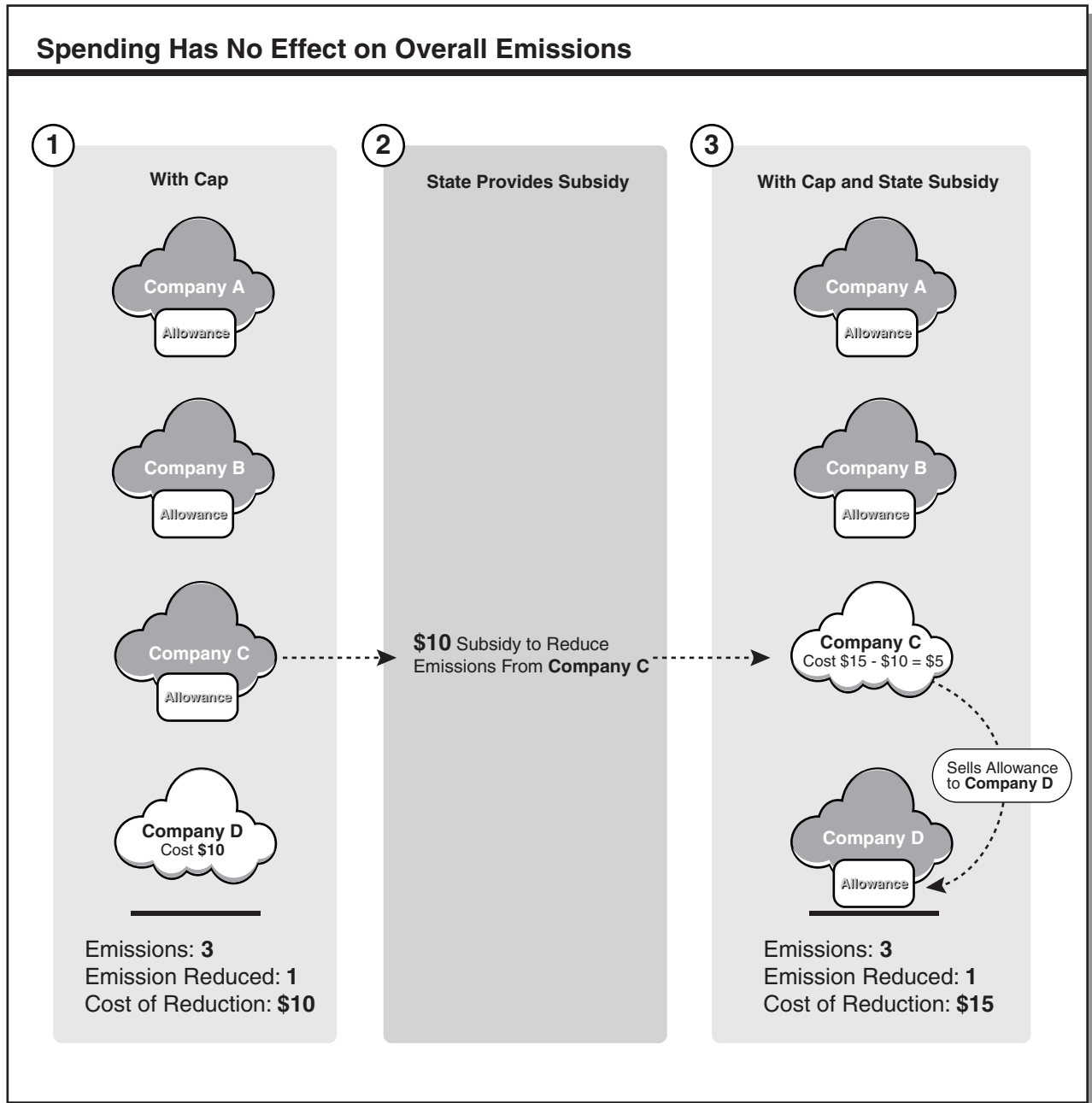
Spending on Capped Sources Likely Has No Net Effect on Overall Emissions

- As long as the cap is limiting emissions, subsidizing an emission reduction from one capped source will simply free-up allowances for other emitters to use. The end result is a change in the sources of emissions, but no change in the overall level of emissions.



Spending on GHG Reductions From Capped Sources Likely Increases Overall Costs

- The cap-and-trade regulation generally creates a financial incentive for producers and consumers to find the least costly mix of emission reductions. In many cases, using state funds to encourage a different mix of GHG emission reductions would be more costly overall.





Policy Considerations—Options For Promoting Legislative Priorities



Options Under Requirement to Spend on GHG Reductions

- **Additional GHG Reductions.** Spend on reductions from uncapped sources of GHGs.
- **Cost-Effective GHG Reductions.** Target activities that cap-and-trade and other regulations and programs do not already encourage.
- **Additional Co-Benefits.** Prioritize programs that achieve non-GHG benefits, such as improving regional air quality and providing financial benefits to low-income households.
- The extent to which the Legislature relies on each of these strategies depends on: (1) the relative weight it gives to each of these different priorities and (2) an assessment of the legal risk associated with each option.



Removal of Requirement to Spend on GHG Reductions by Reauthorizing Cap-and-Trade With a Two-Thirds Vote

- Legal requirement limits flexibility to achieve other legislative goals.
- Removing requirement provides maximum flexibility to (1) return funds directly to households and businesses or (2) use revenue to promote highest legislative priorities.
- Might be needed to remove post-2020 legal uncertainty about authority to operate cap-and-trade.



Information to Guide Spending Decisions— General Framework



Investment Plan Should Provide Framework for Spending Decisions

- How to choose programs and prioritize funds.
- How to target activities that maximize GHG reductions, limit costs, and/or achieve other goals.
- How to approach spending in light of interactions with the cap-and-trade program and other policies.



2016 Investment Plan Provides Limited Analysis

- Limited analysis of how different spending options interact with other regulations and the implications for the overall benefits achieved, as well as the distribution of those benefits.
- Lacks clear analytical framework for evaluating how to maximize benefits. No robust analysis of (1) how to provide the most GHG reductions, (2) how to target the most cost-effective GHG emission reductions, or (3) which types of projects maximize benefits to disadvantaged communities.



Legislature Might Consider Establishing Expert Panel for Guidance

- Developing a comprehensive framework for spending strategies is difficult.
- Panel could help identify where current incentives—including private market incentives, as well as federal and state regulations and programs—fail to provide appropriate incentives for cost-effective GHG reductions.
- Panel could help identify ways in which fund could be targeted to address these problems, as well as establish framework for evaluating the amount, type, and distribution of net benefits associated with different types of spending options.



Information to Guide Spending Decisions— Robust Estimates of Benefits



Robust Estimates of Program Benefits Can Help Inform Funding Decisions

- Information on the benefits achieved by different programs will help the Legislature evaluate whether each program is achieving its goals effectively.
- In the short run, the Legislature might want to ask administration to provide estimated benefits associated with each proposal.
- In the long run, the Legislature might want to focus its attention on the program evaluation process to ensure it provides meaningful information about the net benefits that are accomplished. This information can then be used to inform future funding decisions.



Factors to Keep in Mind When Evaluating Program Outcomes and Benefits

- Estimating net benefits can be difficult and, in some cases, the science can be somewhat uncertain.
- Some of the factors the Legislature might want to consider when evaluating the net benefits of different programs:
 - (1) interactions with other regulations and programs;
 - (2) what activities would have otherwise occurred without the spending;
 - (3) how households, business, or governments might change their energy consumption behavior as a result of having more efficient technologies; and
 - (4) how the overall benefits are distributed across different households and businesses.