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August 23, 2017

2017-18 Cap-and-Trade Expenditure Plan

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

Presented to:
Assembly Budget Subcommittee No. 3
On Resources and Transportation
Hon. Richard Bloom, Chair

August 23, 2017

State GHG Goals and Policies

☑ **The Global Warming Solutions Act of 2006 (Chapter 488 [AB 32, Núñez/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. Authorized ARB to adopt cap-and-trade regulation through 2020.

☑ **State Established a Variety of Policies to Meet 2020 Target**

- Scoping Plan developed by ARB includes 33 percent renewable portfolio standard (RPS), low carbon fuel standard, energy efficiency, and cap-and-trade.

☑ **SB 32 Established More Aggressive 2030 GHG Target**

- Chapter 249 of 2016 (SB 32, Pavley) established GHG target of at least 40 percent below 1990 levels by 2030.
- Other legislation provides direction regarding some of the policies used to achieve 2030 target, including a 50 percent RPS, doubling energy efficiency, activities to reduce short-lived climate pollutants, and extension of cap-and-trade.

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Chapter 135 of 2017 (AB 398, E. Garcia) Extended Cap-and-Trade Through 2030

☑ **Provides Additional Direction to ARB in Implementing Cap-and-Trade**

- AB 398 requires ARB to (1) establish a hard price ceiling; (2) address concerns related to overallocation of allowances when establishing caps from 2021 through 2030; (3) establish rules related to banking (future use of current allowances) that discourage speculation, avoid financial windfalls, and consider volatility in the market; and (4) establish two price containment points (commonly referred to as "speed bumps").

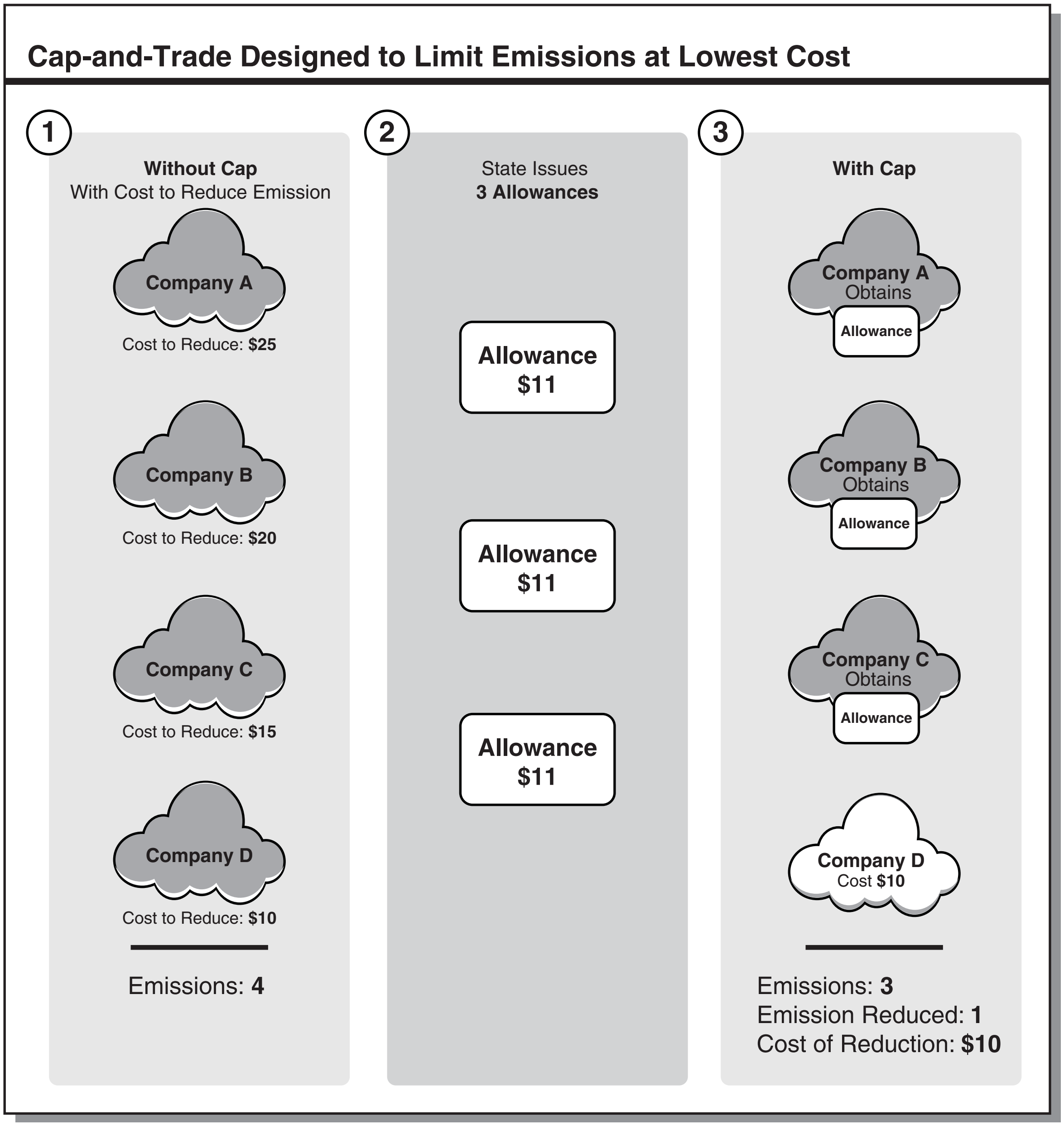
☑ **Requires Auction Revenue to Backfill Partial Manufacturing R+D Sales and Use Tax (SUT) Exemption**

- Extends the sunset date for the partial SUT exemption from 2022 to 2030, and expands it to include such things as certain electric power generation and agricultural activities. Transfers auction revenue to General Fund to backfill revenue losses from existing and expanded SUT exemption.

☑ **Expresses Legislative Intent to Use Funds for Certain Activities**

- AB 398 suspends the state fire prevention fee through 2030 and expresses legislative intent to use auction revenue to backfill the lost fee revenue.
- Identifies other legislative priorities for the use of auction revenues, including such things as reducing toxic and criteria air pollutants, climate adaptation and resiliency, and climate and clean energy research.

Cap-and-Trade Regulation Designed to Encourage Cost-Effective Reductions



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Cap-and-Trade Regulation Designed to Encourage Cost-Effective Reduction

(Continued)

- ☑ ***Designed to Meet State's GHG Goal at Lowest Cost.*** Overall "capped" 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.*** Auctions help maintain price signal for cost-effective reductions. Revenue is a by-product of this design feature, not a primary goal.

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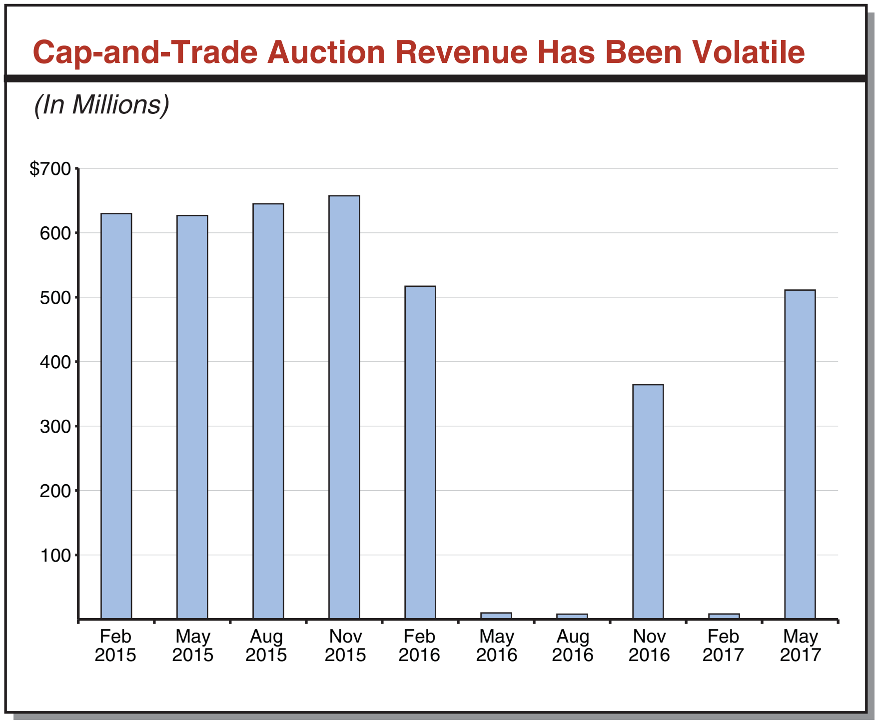
Recent Auction Revenue Has Been Volatile



- ☑ Allowance auctions have generated a total of nearly $5 billion in revenue through 2016-17.
- ☑ Allowance prices have consistently been near the price floor. The 2017 price floor is $13.57.
- ☑ Oversupply of allowances in first several years of program relative to near-term demand. In addition, legal challenge to ARB's ability to generate revenue from auctions and lack of statutory authority beyond 2020 created legal uncertainty about future of program.

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State Law Directs Revenue Be Used to Reduce GHGs

☑ **Auction Revenue Deposited in Greenhouse Gas Reduction Fund (GGRF) and Used to Facilitate GHG Reductions**

- 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) and Chapter 369 of 2016 (AB 1550, Gomez) require that at least 25 percent of auction revenue go to projects located in disadvantaged communities and benefiting low-income individuals.

☑ **Legislative Reporting Requirements**

- Agencies must have expenditure record approved by ARB outlining how proposed expenditure reduces GHGs and how it will further the regulatory purposes of AB 32.
- ARB required to develop a three-year investment plan for GHG reductions.
- Department of Finance, in consultation with ARB, must provide annual report to the Legislature with estimated GHG reductions from programs receiving GGRF.

☑ **Current Law Continuously Appropriates 60 percent of Annual Revenue to Certain Programs.**

- The programs include high-speed rail (25 percent), affordable housing and sustainable communities (20 percent), transit and intercity rail (10 percent), and transit operations (5 percent).
- Remaining 40 percent of annual revenue can be allocated to other, so-called discretionary programs.

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Auction Revenues Have Been Used for a Variety of Programs

Cap-and-Trade Spending

(In Millions)

Program	Agency	2016-17	Cumulative Through 2016-17
High-speed rail	High-speed Rail Authority	$223	$1,331[a]
Low carbon vehicles	Air Resources Board	369	695
Affordable housing and sustainable communities	Strategic Growth Council	178	674
Transit and intercity rail capital	Transportation Agency	224	433
Low-income weatherization and solar	Community Services and Development	20	174
Transit operations	Department of Transportation	45	160
Transformational Climate Communities	Strategic Growth Council	140	140
Forest health and urban forestry	Forestry and Fire Protection	40	82
Green infrastructure	Natural Resources Agency	80	80
Waste diversion	CalRecycle	41	71
State water project turbines and urban water efficiency grants	Department of Water Resources	—	70
Agricultural water efficiency	Food and Agriculture	8	68
Dairy digesters	Food and Agriculture	50	62
Wetlands and watershed restoration	Fish and Wildlife	2	30
Active transportation	Department of Transportation	10	10
Healthy soils	Food and Agriculture	8	8
Black carbon woodsmoke	Air Resources Board	5	5
Biofuels	Food and Agriculture	—	3
Other technical assistance and administration	Various	14	41
Totals		**$1,457**	**$4,135**

[a] Includes $400 million loan repayment from General Fund to Greenhouse Gas Reduction Fund that is allocated to high-speed rail under current law.

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Revenue Subject to Substantial Uncertainty

☑ **Extension Could Lead to Higher Long-Run Allowance Prices and Revenue, but Substantial Uncertainty Remains**

- Extension of the program to meet 2030 GHG goals—which are likely much more aggressive than 2020 goals—and the legal certainty provided by approving the program with a two-thirds vote could lead to much higher long-term prices.
- However, long-term prices will depend on a variety of factors, including future ARB regulatory decisions, long-term economic conditions and technological advancements, and the effects of other so-called "complementary" policies. All of these factors are highly uncertain.
- Significantly higher long-term prices would result in higher revenue. For example, if allowance prices were $50 in 2025, state revenue could exceed $5 billion annually.

☑ **2017-18 Revenue Depends on Market Expectations**

- Short-term prices largely depend on market expectations about future allowance prices. Future allowance prices depend, in part, on future ARB regulatory decisions. For example, ARB decisions about how to implement AB 398—including allowance banking, post-2020 caps, and the level of the price ceiling—could have significant effects on both short-term and long-term prices.
- In addition, under current program rules, the number of allowances offered in the next several auctions depends on whether or not allowance prices are above the floor.

☑ **If Prices Are Slightly Above Floor, 2017-18 Revenue Likely About $2.5-$3 Billion**

- Revenue could be lower if market prices are at the floor (or below the floor on the secondary market). This could happen, for example, if ARB indicates its plans to establish major limitations on allowance banking into the post-2020 program.

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Revenue Subject to Substantial Uncertainty *(Continued)*

- Alternatively, prices and revenue could be substantially higher in some scenarios. For example, prices could be substantially higher if ARB allows banking of allowances beyond 2020 and substantially reduces the number of post-2020 allowances.

Discretionary Funds if 2017-18 Revenue Is $2.5 Billion

(In Millions)

	Amount
Revenue	
Unallocated revenue from prior auctions	$800
2017-18 Revenue	2,500
Subtotal	($3,300)
Existing Allocations	
60 percent continuous appropriations	-$1,500
Estimated backfill for SUT exemption and fire fee suspension[a]	-300
Subtotal	(-$1,800)
Discretionary Funds Remaining	**$1,500**

[a] The allocation to backfill the fire fee suspension is not in current law, but the Legislature expressed intent to backfill in AB 398.

SUT = sale and use tax.

☑ Options to Deal With Revenue Uncertainty Exist

- Various options to mitigate against downside revenue risk exist. For example, the Legislature could allocate the roughly $800 million available at the end of 2016-17, plus a small portion of expected 2017-18 revenue. Any additional revenue would be available for spending in later years. Another option would be for the Legislature to use funding "buckets" that designate which programs receive allocations first, and which programs receive allocations only if sufficient revenue is collected.

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AB 398 Gives Legislature Greater Flexibility Over Use of Revenue

☑ **Spending on Certain GHG Reductions Creates Policy Challenges**

- In our February 2016 report, *Cap-and-Trade Revenues: Strategies to Promote Legislature Priorities*, we discussed how cap-and-trade *spending* interacts with the cap-and-trade *regulation*.
- Spending auction revenue to reduce GHG from 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.
- In addition, spending on GHG reductions from capped sources likely results in a more costly overall mix of GHG reduction activities.

☑ **AB 398 Extension Provides Greater Flexibility Over Use of Revenue**

- About $800 million available from auctions conducted before AB 398 was enacted is likely still subject to legal requirements to spend on GHG-related activities.
- AB 398 approval with two-thirds vote gives Legislature flexibility to consider a wider range of uses for new cap-and-trade revenue beyond activities that reduce GHGs.

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AB 398 Gives Legislature Greater Flexibility Over Use of Revenue *(Continued)*

☑ **Consider Highest Priorities, Including Those That Do Not Reduce GHGs**

- This could include such activities related to climate change—such as air toxic reductions, climate adaptation, and alternative energy research—or programs unrelated to climate change that the Legislature might consider higher priorities.
- If additional GHG reductions are a priority, consider targeting areas that cap-and-trade regulation does not address, such as reducing emissions from uncapped sources. Also, consider opportunities to address other "market failures" that may not be addressed by carbon prices, such as promoting research and development that private businesses would not otherwise invest in.

☑ **Rebates and/or Tax Reductions Could Help Offset Costs for Households and Businesses**

- We suggest the Legislature consider giving the money back to households and/or businesses by issuing rebates and/or reducing other taxes. This would also help offset the higher energy costs for household and businesses associated with cap-and-trade.
- This option would be especially effective if allowance prices increase in the future, resulting in higher energy costs for households and businesses.

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Ensuring Legislative Requirements Are Consistent With Goals

- ☑ Current GGRF spending requirements, guidance, and reporting requirements largely focus on GHG reductions.

- ☑ If the Legislature allocates funds to programs whose primary goal are something other than reducing GHGs, it may need to modify current GGRF requirements to ensure programs are structured and monitored in a way that is consistent with these goals. For example:

  - If funds are allocated to climate adaptation programs, the Legislature might want to exempt these programs from the requirements that projects reduce GHGs. It might also want to modify the existing GGRF guidance and reporting requirements to ensure funds are being targeted to projects that have the greatest climate adaptation benefits.

  - If funds are allocated to programs that focus primarily on reducing criteria and toxic pollutants—rather than GHGs—the Legislature might want to modify legislative direction and reporting requirements in a way that reflects this priority. This could help ensure departments are prioritizing projects that reduce the most criteria and toxic pollutants.