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The 2021-22 Budget: Extension of AB 8 Fees and Funding Securitization for Zero-Emission Vehicle Infrastructure

LEGISLATIVE ANALYST'S OFFICE

Summary

Governor's Proposal

In this analysis, we assess the Governor's proposal to:

- ***Extend Sunset of Certain Vehicle-Related Fees.*** The Governor's budget proposes to extend the sunset on various vehicle-related fees—commonly known as AB 118 or AB 8 fees—from the end of 2023 through 2046. These fees support several different environmental programs, most of which are targeted at climate change and/or air quality.
- ***Securitize Fee Revenue to Accelerate Funding for Zero-Emission Vehicle (ZEV) Infrastructure.*** The Governor proposes to securitize a portion of the AB 8 revenue that goes to the California Energy Commission's (CEC's) Clean Transportation Program (CTP) to accelerate $500 million for ZEV fueling infrastructure, with additional authority to securitize up to $1 billion.

Key Issues for Legislative Consideration

In concept, we think both aspects of the Governor's proposal generally have merit, but there are important questions and issues the Legislature will want to consider before taking action on this proposal.

- ***Should Funding for AB 8 Programs Be Extended?*** The fees support key emission reduction activities, including many programs that are not specifically targeted at ZEVs. However, there have been significant policy changes since they were last extended. The Legislature will want to consider the Governor's proposal in the context of its overall climate and air quality strategies.
- ***Do All Fees Need to Be Extended This Year?*** The Governor's securitization proposal requires an extension of a portion of AB 8 fees. However, the fees do not sunset until the end of 2023 and do not need to be extended this year in order to continue programmatic funding over the next couple of years. Even if the Legislature adopts the Governor's securitization proposal, a large portion of the fees do not need to be extended this year.

Summary

(Continued)

- ***What Is the Best Source of Funding for Mobile Source Programs?*** Assembly Bill 8 fees are a reasonable source of funding for these programs, but the Legislature could consider modifying the current fee structure in ways that shift the burden borne by different households and/or businesses. For example, this could include assessing fees in a way that more closely reflects the amount of pollution coming from different types of vehicles.
- ***Which Programs Should Be Funded?*** The proposal lacks detailed outcome information that is presented in a way that could be used to identify the mix of programs that achieves the Legislature's climate and air quality goals most effectively. More information might be available in the coming months. Absent such information, it will be difficult for the Legislature to weigh the wide variety of relevant policy and program design questions.
- ***Should Funding Continue to Focus on ZEV Infrastructure?*** If the Legislature supports long-term ZEV adoption goals, continuing to focus CTP funding on fueling infrastructure has merit. Fueling infrastructure is a key barrier to ZEV adoption and some research has shown that supporting infrastructure is a relatively effective approach for promoting ZEVs.
- ***Does Accelerating Funding for Infrastructure Make Sense?*** Several aspects of the proposal to securitize future CTP funding have merit, but long-term funding needs are still unclear. The Legislature will need to weigh a short-term increase in funding with a long-term reduction in project funding.
- ***How Will CTP Projects Be Implemented?*** Implementation of bond funding will largely rely on the existing CTP program structure. CEC plans to use ongoing analyses of infrastructure distribution to inform expanded efforts to improve statewide equity. The Legislature will want to ensure that the proposed implementation strategy is consistent with its goals and priorities.

Summary

(Continued)

- ***Should All CTP Funds Be Continuously Appropriated?*** Continuous appropriation authority for all CTP funding is likely not needed to implement the proposal and would limit legislative discretion over future programmatic funding.

Recommendations

In order to address some of the above issues, we recommend the Legislature:

- Consider extension in context of overall climate and air quality strategy.
- Direct administration to provide additional information at budget hearings on program outcomes.
- Direct administration to report at budget hearings on ongoing Clean Transportation Program funding needs.
- Consider authorizing $500 million bond, rather than $1 billion.
- Limit continuous appropriations to only what is needed to secure bonds.

State Has Ambitious Climate Change and Air Quality Goals

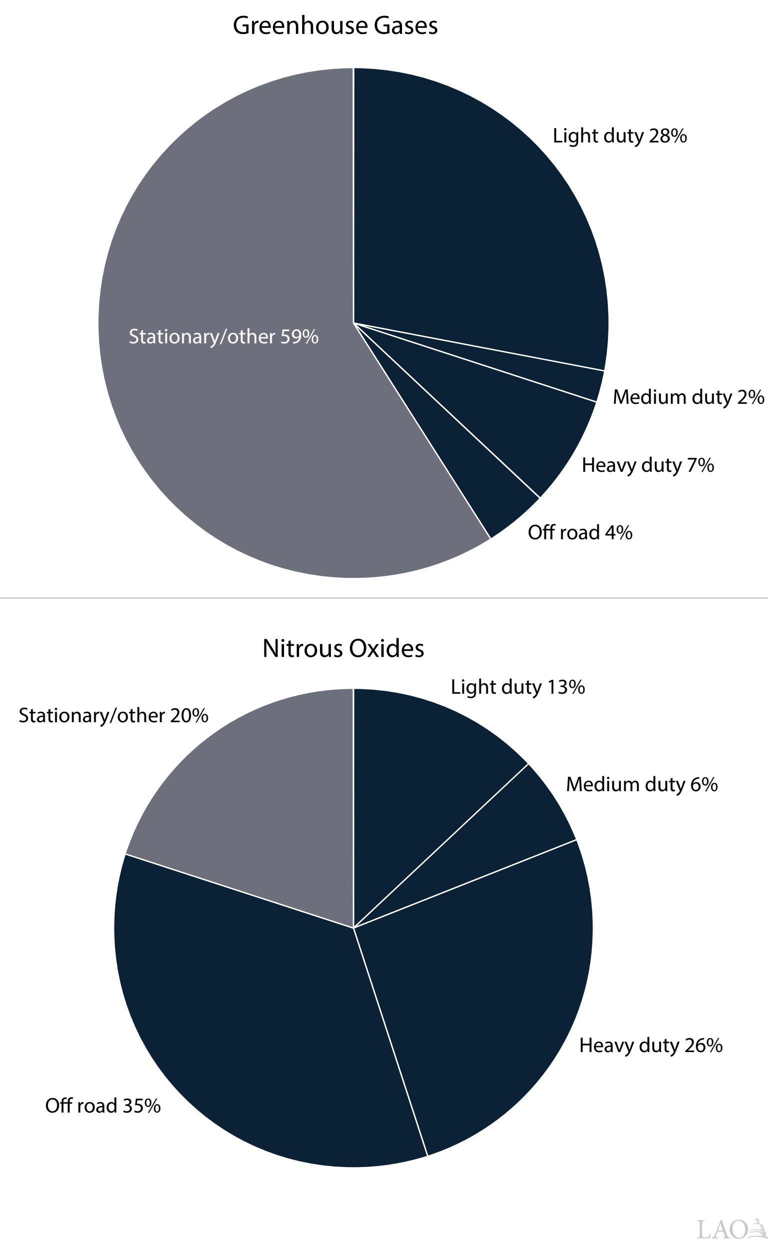
California has a variety of goals related to greenhouse gas (GHG) emissions, regional and local air pollution, and ZEVs.

- ***GHG Limit.*** Chapter 249 of 2016 (SB 32, Pavley) established a statewide GHG limit of 40 percent below 1990 levels by 2030. (The Governor also has an executive order establishing a goal of statewide carbon neutrality by 2045, but this target is not in state law.)
- ***Federal Air Quality Standards.*** California has two areas with the most critical air quality challenges in the nation—the South Coast Air Basin and the San Joaquin Valley. Substantial reductions in criteria pollutants from all sources—specifically nitrous oxides (NOx) and fine particulate matter (PM2.5)—are needed to meet increasingly stringent federal air quality standards in coming years.
- ***AB 617 Community Emission Reduction Plans.*** Pursuant to Chapter 136 of 2017 (AB 617, C. Garcia), some of the communities with the worst air quality in California have adopted plans that identify five- and ten-year targets to reduce air pollution exposure from various sources.
- ***ZEV Goals.*** Most of the state's ZEV goals are established by the Governor through executive orders. For example, current light-duty ZEV goals include (1) 1.5 million ZEVs on the road by 2025, (2) 5 million ZEVs on the road by 2030, and (3) ZEVs making up 100 percent of light-duty vehicle sales by 2035. Currently, there are approximately 700,000 ZEVs in California.

Mobile Sources Represent a Large Portion of Emissions

Mobile Sources Are Major Contributors to Air Pollution

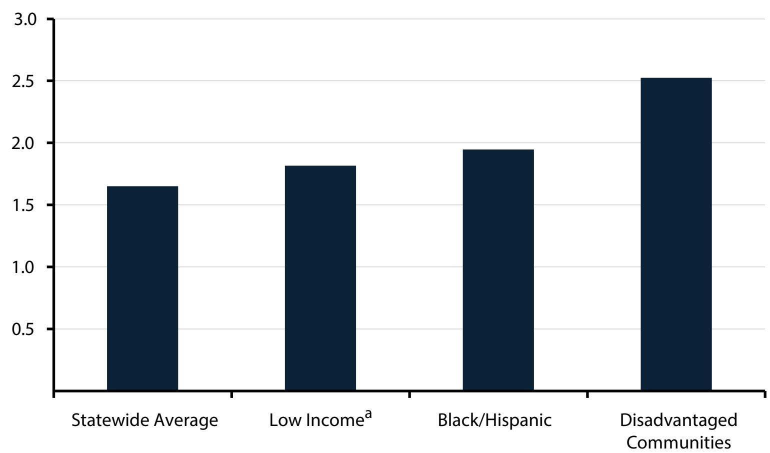
2017 Statewide Share of Emissions by Source



Mobile Source Emissions Have Disproportionate Effects

California PM2.5 From On-Road Sources Disproportionately Affects Certain Populations and Areas

Population-Weighted Average Exposure Concentration (Micrograms Per Square Meter)



[a] Lowest 20 percent of household income distribution.

Source: Apte et al. (2019)

PM2.5 = fine particulate matter.

State Has a Variety of Mobile Source Emission Reduction Programs

Major Programs Providing Financial Support for Vehicles and Fueling Infrastructure
(In Millions)

Category/Program	Department	Funding Source	2019-20	2020-21 Revised
Low Carbon Fuel Standard[a]	**CARB**	**LCFS credits**	**$560**	**$530**
Light-duty vehicle EV rebates and programs			370	330
Heavy-duty EV charging			190	200
Low Carbon Transportation	**CARB**	**GGRF**	**$449**	**$239**
Light-duty vehicle rebates (CVRP)			238	—
Heavy-duty vehicles and equipment			156	165[b]
Equity programs			56	74[b]
Utility EV infrastructure[a]	**CPUC**	**IOU ratepayers**	**$255**	**$255**
AB 617 incentives	**CARB**	**GGRF**	**$209**	**$125[b]**
VW Mitigation Trust—Heavy Duty[a]	**CARB**	**Legal settlement**	**$117**	**$117**
Clean Transportation Program	**CEC**	**AB 8 fees**	**$95**	**$146[c]**
Light-duty EV infrastructure			33	93
Heavy-duty vehicles and infrastructure			30	20
Hydrogen fueling			20	20
Other			13	14
Carl Moyer	**CARB**	**AB 8 and other fees**	**$94**	**$94**
VW ZEV Investment Plan[a]	**CARB**	**Legal settlement**	**$80**	**$80**
EFMP/Consumer Assistance Program	**BAR/CARB**	**AB 8 and other fees**	**$73**	**$80**
FARMER	**CARB**	**GGRF**	**$56**	**$90[b]**
Air Quality Improvement Program	**CARB**	**AB 8 fees**	**$48**	**$28**
Totals			**$2,036**	**$1,784**

a LAO estimate.
b Proposed current-year allocation in Governor's budget.
c Includes $51 million one-time funding.

CARB = California Air Resources Board; LCFS = Low Carbon Fuel Standard; EV = electric vehicle; GGRF = Greenhouse Gas Reduction Fund; CVRP = Clean Vehicle Rebate Project; CPUC = California Public Utilities Commission; IOU = investor owned utility; AB 617 = Chapter 136 of 2017 (AB 617, C. Garcia); VW = Volkswagen; CEC = California Energy Commission; Chapter 282 1979 (AB 8, L. Greene); ZEV = zero-emission vehicle; EFMP = Enhanced Fleet Modernization Program; BAR = Bureau of Automotive Repair; and FARMER = Funding Agricultural Replacement Measures for Emission Reductions.

- The state has many programs that provide direct financial support for low-emission vehicles and fueling infrastructure.
- Furthermore, the California Air Resources Board (CARB) has several major regulatory programs intended to reduce vehicle emissions, including: Advanced Clean Cars Regulation, Truck and Bus Regulation, Innovative Clean Transit, and Advanced Clean Trucks.

AB 8 Fees Support Several Climate and/or Air Quality Programs

Summary of AB 8 Fees and Programs

Program	Department	Description	Revenue Source	Annual Revenue (Millions)
Clean Transportation Program[a]	CEC	Funding to accelerate development and deployment of new technologies. Includes funding for ZEV fueling infrastructure, alternative vehicle technologies, and alternative transportation fuels.	$2 vehicle registration fee	$66.0
			$4 smog abatement fee	42.0
			Other fees	0.3
			Subtotal	($108.3)
Air Quality Improvement Program	CARB	Mobile source incentive program focusing on reducing criteria pollutants and diesel particulate emissions. Recent allocations largely loans for heavy-duty fleet upgrades.	$4 smog abatement fee	$42.0
			Other fees	0.3
			Subtotal	($42.3)
Waste Tire Program	CalRecycle	Funds permitting and enforcement activities to ensure tires are stored and transported safely. Also funds tire recycling and market development activities.	$1 tire fee	$34.0
Consumer Assistance Program, Enhanced Fleet Modernization Program	BAR/CARB	Subsidies to retire older high-polluting vehicles and replace with newer vehicles, with higher subsidies for low-income households.	$1 vehicle registration fee	33.0
Carl Moyer Program	CARB	Joint state-local program providing financial support for early vehicle retirement and cleaner-than-required equipment. Program largely focuses on reducing criteria and toxic air emissions from heavy-duty diesel engines.	$0.75 tire fee	27.0[b]
			Total	**$245.0**

[a] Also known as the Alternative and Renewable Fuel and Vehicle Technology Program.
[b] Does not include funding from other state revenue sources or local matching funds.

CEC = California Energy Commission; ZEV = zero-emission vehicle; CARB = California Air Resources Board; CalReycle = Department of Resources Recycling and Recovery; and BAR = Bureau of Automotive Repair.

AB 8 Fees Support Several Climate and/or Air Quality Programs

(Continued)

- Chapter 750 of 2008 (AB 118, Nuñez) established several different vehicle-related fees that primarily support climate and air quality programs. Chapter 401 of 2013 (AB 8, Perea) extended these fees through 2023.
- Throughout this analysis, we refer to the vehicle charges imposed by AB 8 as "fees," which is generally consistent with how they are characterized in statute. However, based on our conversations with the administration, our understanding is that under the State Constitution these charges are taxes.
- The Clean Transportation Program (CTP), also known as the Alternative and Renewable Fuels and Vehicle Technology Program, funds projects intended to accelerate development and deployment of low- or zero-emission technologies.

Governor's Proposal

The Governor's proposal includes two main parts: (1) extending the sunset for AB 8 fees and (2) securitizing CTP revenue to accelerate funding for ZEV infrastructure. We describe these two parts below. We note that the Governor's budget also includes other proposals to promote ZEVs, including (1) $465 million from the Greenhouse Gas Reduction Fund (GGRF) over two years for heavy-duty ZEV programs and transportation equity projects and (2) $50 million from the General Fund for electric vehicle (EV) charging infrastructure at state facilities.

Extend Sunset for AB 8 Fees

- The Governor proposes budget trailer legislation to extend all AB 8 fees from 2023 until 2046.
- Fees would remain at current levels and revenue would continue to be allocated to the same funds and programs.
- The proposal would also extend authority for local air districts to assess motor vehicle fees to raise matching funds for the Carl Moyer Program.

Securitize CTP Revenue to Accelerate up to $1 Billion for ZEV Infrastructure

Issue Revenue Bonds for CTP. The proposal would provide authority for the California Infrastructure and Economic Development Bank (IBank) to issue up to $1 billion in revenue bonds to support ZEV infrastructure through CEC's CTP.

- The administration plans to issue $500 million in bonds in late 2021 to support an expansion of ZEV infrastructure in the next two years. Of this total, $300 million would be for light-duty vehicle infrastructure, and $200 million would support heavy-duty vehicle infrastructure which could include support for both EV charging and hydrogen fueling.
- Estimated annual debt service would be $33 million, paid from vehicle registration fee revenue that goes to CTP.

Governor's Proposal

(Continued)

- CEC would determine whether to issue the additional $500 million in bonds at a future date, based on its assessment of ZEV infrastructure needs.

Proposed Clean Transportation Program Funding[a]
(In Millions)

Category	2021-22	2022-23
Baseline Funding	**$95**	**$62**
Light-duty EV charging	30	TBD
Medium and heavy-duty EV charging	30	TBD
Public hydrogen fueling[b]	20	20
Alternative fuel production and supply	10	TBD
Manufacturing	3	TBD
Workforce training and development	2	TBD
Proposed Bond Funds	**$300**	**$200**
Light-duty infrastructure	200	100
Heavy-duty infrastructure	100	100
Estimated Bond Debt Service	**—**	**$33**
Total	**$395**	**$295**

[a] Actual allocation to specific purposes will be determined through CEC investment plan process
[b] Minimum amount required in statute.

EV = electric vehicle; TBD = to be determined; and CEC = California Energy Commission.

Continuously Appropriate Revenue for CTP. The proposal would continuously appropriate all revenue from the portion of fees allocated to CTP—roughly $100 million annually.

- This funding would be used to pay for bond debt service, and remaining funds would be available for CEC to support to future CTP projects.
- Currently, CTP funding is allocated through the annual budget act, consistent with other AB 8 program funding.

Issue 1: Should Funding for AB 8 Programs Be Extended?

Reasonable to Consider Extending AB 8 Fees, Which Support Key Emission Reduction Activities. The programs supported by AB 8 fees are long-standing programs intended to help achieve the state's climate and air quality goals, each using somewhat different approaches.

- For example, (1) CTP focuses on promoting the development of newer low-emission technologies, and (2) Carl Moyer targets replacement of high-polluting vehicles, such as older diesel vehicles.
- In addition, some of the programs—such as the Enhanced Fleet Modernization Program—aim to address equity issues by providing financial support to low-income households to retire their older vehicles.

Significant Policy Changes Since AB 8 Fees Were Enacted. The state and federal government have established new policy goals and programs in the last several years, including (1) SB 32, which established a more ambitious 2030 statewide GHG target; (2) the federal government's longer-term and more stringent regional ambient air quality standards; and (3) AB 617, which created a new program focused on reducing pollution in heavily-polluted communities.

Additional Funding and Regulations to Reduce GHGs and Air Pollution. Over the same period, the level of funding and number of regulatory programs have increased. For example:

- ***GGRF.*** Annual state revenue from cap-and-trade auctions has increased from $257 million in 2012-13 to over $2 billion annually in recent years. Much of this funding has been allocated to mobile source emission reduction programs.
- ***IOU Ratepayer Funds.*** The California Public Utilities Commission (CPUC) has authorized investor-owned utilities to use over $1.5 billion in electric ratepayer funds to pay for EV charging infrastructure.

Issue 1: Should Funding for AB 8 Programs Be Extended?

(Continued)

- ***Low Carbon Fuel Standard (LCFS).*** The estimated annual value of credits generated through CARB's LCFS program has increased from about $200 million in 2013 to roughly $2.8 billion in 2019. This revenue supports alternative liquid fuel production (such as renewable diesel), ZEV fueling infrastructure, and utility-sponsored rebates for electric vehicle purchases.
- ***Carl Moyer.*** Chapter 633 of 2017 (AB 1274, O'Donnell) exempted seven- and eight-year-old vehicles from the Smog Check program in exchange for payment of a $25 annual fee, which mostly goes to the Carl Moyer program—increasing total state revenue for the program from $91 million in 2017-18 to $173 million in 2019-20.
- ***Regulatory Programs.*** CARB has adopted several significant regulations in the last few years, including the Innovative Clean Transit Regulation and the Advanced Clean Truck Regulations. In addition, to comply with CARB's Truck and Bus Regulation, most heavy-duty trucks and buses will have newer model engines by 2023.

AB 8 Funding Supports Many Non-ZEV Activities. The Governor has framed this proposal as a strategy to support various ZEV goals established in executive orders, and the Legislature will ultimately want to determine the degree to which it supports the Governor's goals in this area. However, most of the AB 8 funding goes to programs that are not explicitly focused on ZEVs. For example, most of the AB 8 funding goes to programs that support early retirement of polluting vehicles and diesel engine upgrades or replacements, such as Carl Moyer and the Air Quality Improvement Program. The only AB 8 program that has a primary focus on ZEV adoption is CTP—which gets less than half of the annual AB 8 funding.

Issue 1: Should Funding for AB 8 Programs Be Extended?

(Continued)

Extension of Fees Should Be Based on Whether Funding Is Still an Important Part of State's Overall Climate and Air Quality Strategy. Given the significant policy and budgetary changes since AB 8 was enacted, the Legislature will want to take this opportunity to evaluate the overall structure for clean transportation funding and the ongoing role of AB 8 funding within that structure. ZEVs are likely one important part of meeting those goals, but not the only strategy. Ultimately, we think the Legislature should evaluate whether these programs should continue to be a key part of the state's overall strategy for achieving climate and air quality goals. Some of the key factors to weigh include:

- ***Focus on Regulations Versus Incentives.*** State regulatory standards for vehicles and fuels are expected to become more stringent in future years, but financial support could help in certain areas, such as promoting the development of new technologies, supporting public infrastructure, and encouraging early retirement of high-polluting vehicles.
- ***Evaluation of Overall Benefits and Costs.*** Continued financial support for emission reduction programs should also be informed by periodic program assessments to determine whether the benefits of achieving those goals outweigh the costs.
- ***Whether the Current Mix of Programs Achieves the Legislature's Goals Cost-Effectively.*** We discuss this issue—and information available to assess program cost-effectiveness—in more detail below.
- ***Distribution of Costs and Benefits.*** The Legislature will also want to consider how the costs (the vehicle fees) and benefits (such as air quality improvements) are distributed across different households when evaluating the overall merits of the proposal.

Issue 2: Do All AB 8 Fees Need to Be Extended This Year?

Extension of CTP Revenues Needed for Securitization This Year. If the Legislature wants to adopt the securitization proposal this year, at least a portion of the CTP revenues must be extended this year to support the bond debt service.

Fees Do Not Otherwise Need to Be Extended This Year. Under current law, AB 8 fees continue through 2023. Therefore, if the Legislature does not adopt the securitization proposal, the Legislature could wait to extend AB 8 fees.

- Waiting to extend fees—if not needed for securitization—would not affect programs in the near term.
- Waiting to extend fees would give the Legislature more time to collect information on program outcomes and consider extension within the broader policy context.
- It is also possible that the federal government will provide funding for various clean air or climate change programs in the future. In this case, there might be less of a need for AB 8 funding, or funding might be better targeted to programs that do not receive federal funds.

Legislature Could Consider Alternative Approaches. Even if the Legislature supports securitization for ZEV infrastructure, it could consider alternatives to the Governor's approach to extending AB 8 fees.

- One option would be to extend only those CTP fees needed for securitization this year, and revisit other fees at some future date before 2023.
- A second option would be to consider extending some of the fees for a shorter amount of time. This would establish an earlier date than under the Governor's proposal at which the Legislature could review these programs and determine whether they are still consistent with overall state goals. For example, the tire fees and a portion of the registration fee that go to other programs could be extended for ten years.

Issue 3: What Is the Best Source of Funding for Mobile Source Programs?

AB 8 Fees Are a Reasonable Source of Funding for Mobile Source Programs. Vehicle fees are generally a reasonable source of funding for transportation emission reduction activities because there is nexus between the source of pollution and the programs intended to mitigate that pollution.

- Notably, AB 8 fees have been a stable long-term funding source for programs to reduce transportation emissions. Other major funding sources are either one time in nature (such as funds from legal settlements) or volatile (such as GGRF).

Legislature Could Modify the Fee Structure. If it chooses to extend the AB 8 fees, the Legislature could consider whether there would be alternative ways to structure these fees that might be appropriate.

- For example, the AB 8 revenues largely come from fees on light-duty vehicles, even though heavy-duty vehicles are a larger source of local air pollution. The Legislature could consider a fee structure that raises a greater share of the revenue from fees on heavy-duty vehicles. This might be more consistent with a "polluter pays" principle.
- The Legislature could also consider increasing the fee levels if it determines that the current amount of funding for state programs is insufficient. These fees were originally established in 2008 and are not indexed to inflation.

Could Shift Costs From Other Revenue Sources to AB 8 Fees. The Legislature could consider reducing its reliance on certain other funding sources to support mobile emission reduction programs and, instead, rely more heavily on transportation-related fees or taxes, such as AB 8 fees. For example, a large share of current funding for EV charging infrastructure comes from higher electricity rates paid by IOU electricity customers, as authorized by CPUC. Relying on ratepayer funds is problematic for several reasons, including:

- IOU ratepayers already pay high electricity rates—roughly double the estimated marginal social cost of providing electricity.
- High electricity rates can have adverse environmental effects by discouraging adoption of EVs and electric appliances.

Issue 4: Which Programs Should Be Funded?

Merit of AB 8 Extension Depends on Whether Current Mix of Programs Are Effective. To identify the mix of spending that meets its goals most effectively, the Legislature will want to evaluate the following:

- ***Cost-Effectiveness of Programs.*** Are the existing programs the most cost-effective way to achieve a specified goal? For example, which programs reduce local air pollution, reduce GHGs, and/or promote new zero-emission technologies most cost-effectively?
- ***Distribution of Benefits.*** How are the benefits of these programs distributed? Which households/regions benefit most from those reductions?

Proposal Lacks Key Information on Program Outcomes. Currently, the administration's proposal lacks detailed outcome information presented in a way that could be used to answer these questions.

- Consistent with statutory requirements, the administration produces several regular reports that estimate outcomes from most AB 8 programs. However, the estimates in those reports have not been presented in a way that helps compare outcomes across programs, which could help inform how to best prioritize funding to achieve the Legislature's goals.
- For example, these estimates are presented in multiple, separate reports for each program. Also, some emission reduction estimates are reported in annual terms, while other estimates are cumulative over the life of a project. This makes it difficult to compare the cost per ton of GHG or other pollutant reductions of different programs.

Key Considerations for Allocating Funds and Designing Programs. If the Legislature extends AB 8 fees, it could direct the revenues to a different mix of programs. When evaluating the mix of programs, the Legislature will need to balance many different considerations, including:

- ***Light-Duty Versus Heavy-Duty Vehicles.*** Funding decisions might depend, in part, on the extent to which the Legislature wants to focus programs on reducing GHGs or local air pollution. In general, heavy-duty vehicles have a larger impact on local air pollution, while light-duty vehicles are a larger source of GHG emissions.

- ***Near-Term Versus Long-Term Benefits.*** The Legislature will want to weigh the extent to which different programs are likely to contribute to emission reductions in the near term versus long term. For example, programs that increase the adoption of ZEVs would help reduce GHGs and local pollutants in the near term and might contribute to technological improvements that have long-term benefits. However, there are likely instances where support for other technologies—such as low-emission diesel or natural gas engines—are a more cost-effective way to reduce near-term emissions. In addition, programs designed to promote ZEVs could differ to the extent that they provide near-term versus long-term benefits. For example, rebates to increase deployment of commercially available ZEVs is more likely to reduce emissions in the near term, but funding pilots and demonstrations could have greater potential to advance emerging ZEV technologies in future years.
- ***Infrastructure Versus Vehicle Incentives.*** If a key goal is to promote ZEVs, the Legislature will want to consider the relative amount of funding provided to vehicle rebates versus fueling infrastructure. We discuss this issue in more detail below.
- ***Loans Versus Grants.*** The administration indicates that it plans to begin to expand the use of loans—rather than grants—for some programs, including ZEV infrastructure. Loans are worth exploring for technologies that are widely available and where the primary barrier to adoption is the ability to obtain capital. However, the merits depend on the degree to which the state can identify areas where projects are relatively low financial risk, but also help support activities that would not otherwise receive support from the private market.

Issue 5: Should Funding Continue to Focus on ZEV Infrastructure?

Proposal Continues to Use CTP Funding for Infrastructure. This proposal would extend and accelerate funding used to support one the state's primary ZEV infrastructure programs. The administration indicates that it is focused on increasing the availability of infrastructure because the current lack of charging infrastructure is a primary barrier to ZEV adoption right now. There are two main reasons it could be a barrier: (1) there is not enough infrastructure to meet the regular needs of drivers and/or (2) consumers perceive there to be insufficient fueling infrastructure, even if there is adequate charging available for the vast majority of trips.

- The Governor's budget does not include funding for the Clean Vehicle Rebate Project—the state's main program for supporting ZEVs. Other programs—including LCFS and the Low Carbon Transportation equity programs—provide some support for vehicle rebates.

Focus on Infrastructure Has Merit. Based on our review, the evidence suggests that a continued focus on both vehicles and infrastructure is the most effective way to promote ZEVs.

- While the research on how much relative emphasis to place on each approach is not entirely clear, it generally suggests a somewhat greater level of support for fueling infrastructure would make sense. For example, some survey research finds that a perceived lack of fueling infrastructure is the primary barrier to consumer adoption.
- Other research finds that efforts to support vehicles and infrastructure can be complementary, but support for infrastructure in the early stages of the ZEV market had a larger impact on ZEV adoption than vehicle incentives.

Issue 5: Should Funding Continue to Focus on ZEV Infrastructure?

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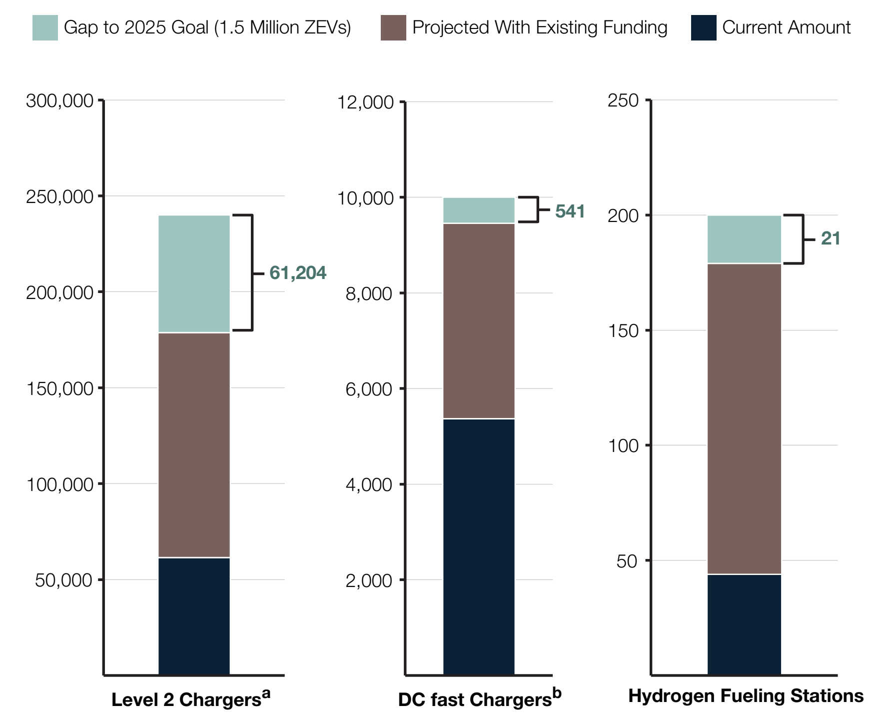
Projected Public ZEV Infrastructure Needed to Meet Governor's 2025 ZEV Goals



[a] Typically adds about 23 miles of range per hour of charging. Includes shared private infrastructure, such as multifamily housing.

[b] Direct current (DC) fast chargers typically add 90 to 200 miles of range in 30 minutes of charging.

ZEV = zero-emission vehicle.

Source: California Energy Commission and National Renewable Energy Laboratory.

Issue 6: Does Accelerating Funding for Infrastructure Make Sense?

Certain Aspects of Securitization Proposal Have Merit. Should the Legislature want to increase near-term funding for ZEV infrastructure, several aspects of the Governor's proposal have merit, including:

- ***Targeted Use of First $500 Million.*** The acceleration of $300 million in bond funds would be used to fill an identified gap in light-duty chargers by 2025, plus an additional $200 million for heavy-duty infrastructure to support expected growth of heavy-duty ZEVs over the next several years.
- ***Use of Bonds for Infrastructure.*** Generally, public ZEV infrastructure is an appropriate use of bonds because it can be a long-lived asset that could be utilized well into the future, and the climate and air quality benefits can be long-lasting.
- ***Relies on Stable Revenue Source.*** Vehicle registration fees are a reasonable source of funding for securitization because revenues are relatively stable.
- ***Minor Stimulus Benefits.*** Issuing revenue bonds could have a very small economic stimulative effect. However, as noted in our recent report, A Framework for Evaluating State-Level Green Stimulus Proposals, we do not think stimulative effects should be a primary criteria for evaluation.

Trade-Off of Securitization Is Less Future Funding Available. The Legislature will want to weigh whether an increase in funding in next few years is worth the decrease in revenue available to fund projects in the following years while the state makes debt service payments on the bonds.

- In general, accelerating funding makes sense if the need for ongoing funding in the future is expected to decline compared to the benefits of having the funding available now.
- On the other hand, if there is going to be ongoing demand for program funding, securitization could be problematic because less funding would be available in future years.

Issue 6: Does Accelerating Funding for Infrastructure Make Sense?

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Need for Ongoing State Funding in Future Years Is Unclear, but Could Be Substantial. According to the administration, the state is at a critical moment in ZEV market development where a significant increase in state support for ZEV infrastructure in the near term could help make the overall market less reliant on state support in the future. It also suggests that light-duty ZEV infrastructure costs will continue to decline in the coming years, thereby reducing the demand for state infrastructure subsidies to the private market. There is merit to these arguments, but the administration has not provided estimates of ongoing project funding needs for this program. Plus, it is possible that significant levels of additional state financial support for ZEV charging infrastructure might be needed in future years to meet state goals. Some factors that could affect future needs include:

- ***Declines in Cost Per Charger Uncertain.*** Over the last few years, there has been a trend toward lower state funding provided for each charger because the costs have been declining. This trend is likely to continue in the future and could further reduce the level of state support needed. However, the degree to which costs will decline in the future is unclear.
- ***Continued Support for Certain Types of Light-Duty Fueling Infrastructure.*** This proposal aims to meet the goal of 250,000 chargers by 2025. CEC estimates that the state will need roughly 1 million public EV chargers by 2030 to meet the Governor's goal of 5 million ZEVs and about 1.5 million chargers by 2030 to be on track to meet goal of 100 percent ZEV sales by 2035. To meet these goals, there likely will be a continued role for government support in certain locations where private entities might not provide a sufficient amount of fueling infrastructure, such as multifamily housing or in geographic areas where there are relatively few chargers.

Issue 6: Does Accelerating Funding for Infrastructure Make Sense?

(Continued)

- ***Potentially Growing Need to Support Heavy-Duty Infrastructure.*** There might be a growing need for continued state support for heavy-duty fueling infrastructure. For example, the administration estimates that more than $2 billion in additional public funding will still be needed to deploy heavy-duty vehicle infrastructure at a scale to meet Governor's goals, including infrastructure to support transit buses and drayage trucks.

Issue 7: How Will CTP Projects Be Implemented?

Some Information About Intended Implementation Strategy. The Legislature will want to ensure that the proposed implementation strategy is consistent with its goals and priorities. CEC would largely rely on the existing CTP investment plan process to determine how bond funding is allocated. This annual process includes input from a stakeholder advisory group and reports to the Legislature. The initial $500 million in bond funds would go to three subprograms (with the exact amounts for each program determined through CEC's regular planning process):

- ***Block Grants ($260 Million to $420 Million).*** CEC would build on the existing light-duty ZEV charging block grant process, plus establish a similar process for heavy-duty charging. The CEC awards block grant funding to a third-party administrator, which then designs a program to provide subsidies for infrastructure in a certain location or market. CEC anticipates some new block grants will have a strategic focus on certain markets, such as multifamily housing and disadvantaged communities.
- ***Revolving Loan Program ($40 Million to $120 Million).*** CEC would partner with IBank to implement a new revolving loan program as the market for ZEV infrastructure develops and the need for direct grant support declines.
- ***Funding Solicitations ($40 Million to $120 Million).*** CEC anticipates continuing its grant programs that are intended to support technologies, business approaches, and sectors that are still under development and not fully commercialized.

Issue 7: How Will CTP Projects Be Implemented?

(Continued)

Program Will Target Disadvantaged Communities. The administration indicates that it seeks to provide 50 percent of CTP funding—including both bond proceeds and remaining annual revenues—to low-income and disadvantaged communities. This is an increase from the current 33 percent standard used by CEC.

Analysis of Charger Distribution to Guide Equity Efforts. Pursuant to statutory direction, CEC recently completed an analysis that found charging infrastructure density varied across the state based on geographic region, population density, and community income. CEC intends to use this analysis—as well as future analyses—to ensure CTP funding supports equitable access to fueling infrastructure. However, the exact distribution of funding across the state will be determined through future analysis and program implementation.

Issue 8: Should All CTP Funds Be Continuously Appropriated?

Continuous Appropriation Could Help Secure Low Interest Bonds. Continuous appropriations are common for state revenue bonds. They reduce risk to bondholders and, as a result, help lower interest rates.

Continuous Appropriation Authority for All CTP Funding Likely Not Needed. We find that it is only necessary to continuously appropriate the share of CTP revenue needed to repay the bonds and provide a reasonable degree of certainty to bondholders.

- The administration is proposing to continuously appropriate the entire annual revenue stream for CTP to support a $1 billion bond even though only a share of the revenue would be needed to pay annual debt service costs.
- CEC estimates that annual debt service costs will be $33 million for the first $500 million in bond issuances, and $66 million if the state issues the full $1 billion authorized under the proposal.
- Annual revenues for CEC are about $108 million.
- Under the administration's proposal, the remaining annual revenue would be available to CEC for programmatic spending, but not subject to appropriation in the annual budget act.

Continuous Appropriations Limit Legislative Discretion Over Programmatic Funding. Under Governor's proposal, the Legislature would no longer have annual budget authority over the CTP spending that would be funded from the share of revenues not used to repay bonds. According to CEC, continuous appropriations would allow it to more quickly allocate certain funding—such as funding from past projects that were completed under budget—because it would not need to wait for reappropriation authority from the Legislature. However, this approach would limit legislative review and oversight of programmatic spending and priorities.

Recommendations

Consider Extension in Context of Overall Climate and Air Quality Strategy

- We recommend the Legislature ensure AB 8 fees—and the programs those fees support—continue to be an important part of the state's overall climate and air quality strategy prior to extending the fees.
- Such a determination will require a broader assessment of legislative goals and the degree to which they align with the Governor's. In considering its options for extending AB 8 fees and AB 8-funded programs, we recommend the Legislature consider what level of funding might be needed on a longer-term basis given the existence of other programs, how it wants to structure the fees, and what programs are most effective at achieving the Legislature's goals.
- To help inform these deliberations, we recommend the Legislature direct the administration to report at budget hearings on the estimated amount of funding needed to achieve long-term climate and air quality goals, what revenue sources should be used to provide the funding, and which programs are most effective at achieving different goals.

Direct Administration to Provide Additional Information at Budget Hearings on Program Outcomes

- Key information would include the cost per ton to reduce both GHG emissions and reduce local air pollution for each program—including AB 8 programs, as well as other climate and air quality programs. Importantly, these outcomes should be presented in a way that helps the Legislature compare across programs and evaluate how effective each program is at achieving different goals.
- The administration recently provided our office with estimates of the cost per ton of reducing local air pollutants for certain transportation emission reduction programs. We are currently reviewing the information, and plan to continue to work with the administration explore ways to present the available information in a way that could inform this year's budget deliberations.

Recommendations

(Continued)

- If the information provided over the next few months is not sufficient to evaluate the relative merits of different programs, the Legislature could consider withholding action on some or all of the AB 8 fee extensions until next year. The fees do not expire until 2023.

Direct Administration to Report at Budget Hearings on Ongoing Clean Transportation Program Funding Needs

- A continued focus on fueling infrastructure has merit as a strategy to promote ZEVs, and accelerating funding would likely help increase ZEV adoption in the near term.
- However, the Legislature will need to weigh the short-term benefits of securitization against the decrease in long-term funding available for CTP projects.
- The administration has not provided complete estimates of future funding needs for ZEV infrastructure or other CTP projects, including estimated time lines for when state support for ZEV infrastructure will decline. This information would help the Legislature evaluate whether securitization is consistent with how it balances its short- and long-term goals.

Consider Authorizing $500 Million Bond, Rather Than $1 Billion

- If the Legislature agrees with the Governor's proposal to securitize CTP revenues, we recommend it consider authorizing the administration to issue up to $500 million in bonds—rather than the entire $1 billion.
- This would allow greater legislative oversight over the remaining funds, without any delay in the administration's implementation plan.

Recommendations

(Continued)

Limit Continuous Appropriations to Only What Is Needed to Secure Bonds

- If the Legislature approves a bond, we recommend directing the administration to work with our office and other legislative staff to craft implementing budget trailer legislation that would ensure that a stable source of revenue is available for annual debt service costs, while also maintaining a greater share of spending authority over CTP as part of the annual budget process.
- This would help ensure greater legislative oversight of CTP funding in future years.