

# November 13 Drive Forward Incentives Workshop

## Mentimeter Results Summary

Some workshop attendees asked for the Mentimeter questions and responses from the workshop. CARB staff is providing those in this document. These are workshop attendee and public feedback responses and viewpoints. They are not CARB's responses. Where indicated, the information reflects CARB staff's assessment of the information obtained.

### **Summary:**

Participants identified funding and infrastructure as major barriers to accessing zero-emission transportation, **emphasizing the need for sustained and equitable funding**. Equity and tailored programs for diverse community needs, especially historically underserved and rural areas, were recurring themes. For technology focus, battery electric vehicles (BEV) and yard trucks stood out among commercially available options, while vehicle-to-grid (V2G) and solid-state batteries were noted as important pre-commercial technologies. Participants urged decision-makers to prioritize proven programs delivering air quality benefits, support local implementation, and ensure incentives are sufficient to drive market adoption. Participants highlighted **creative funding sources like CARB enforcement funds and statewide indirect source rules** and encouraged private sector roles in maintaining affordability and supporting infrastructure.

## Individual and Community Mobility Input Session (morning):

### Question 1: How familiar are you with current programs that support zero-emission vehicles and shared mobility?

1) How familiar are you with current programs that support zero-emission vehicles and shared mobility?

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Very familiar – I have applied to or supported one or more of CARB's programs in the past



Somewhat familiar – I am aware, but don't have direct experience with the programs



Heard of them but not sure of details



Not familiar at all



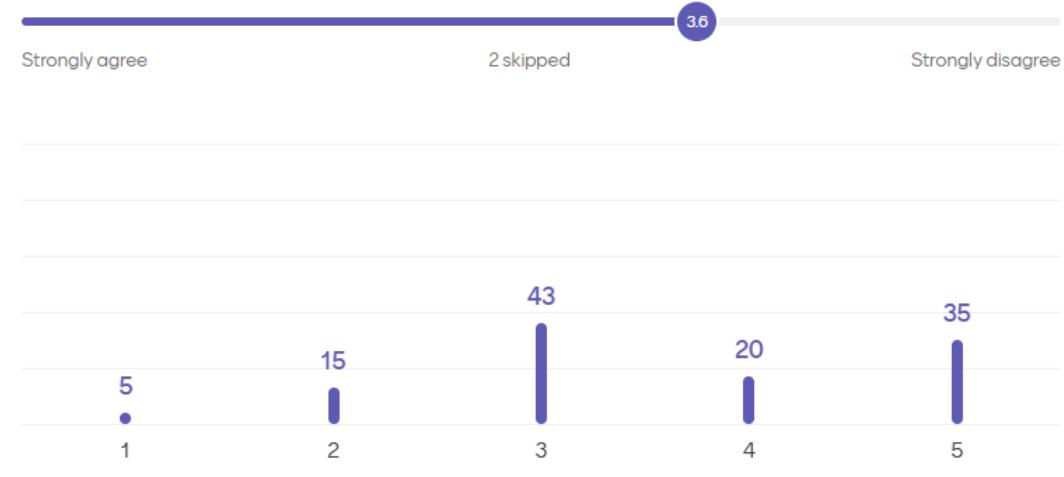
20% 40% 60% 80% 100%

## Question 2: To what extent do you agree with this statement?

2) To what extent do you agree with this statement?

120 / 230

✓ The estimated annual funding amounts are right for each program, in the first year



## Question 3: Don't think about specific programs. If you were responsible for next year's budget, how would you rank these program themes for funding priority?

The screenshot below shows the summary of how people who answered this question ranked the program themes. One (1) was the most important theme and 4 was the least important theme.

3) Don't think about specific programs. If you were responsible for next year's budget, how would you rank these program themes for funding priority?

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> 1 Purchase incentives (zero-emission vehicles (ZEV) and e-bikes)

> 2 Shared mobility community projects (e.g., schools, neighborhoods)

> 3 Complimentary ZEV charging access (e.g., at-home and public)

> 4 Planning and capacity-building, education and outreach

## **Question 4: Of the programs we've traditionally funded, assume more funding was available. Which areas would you increase funding first to best advance equity?**

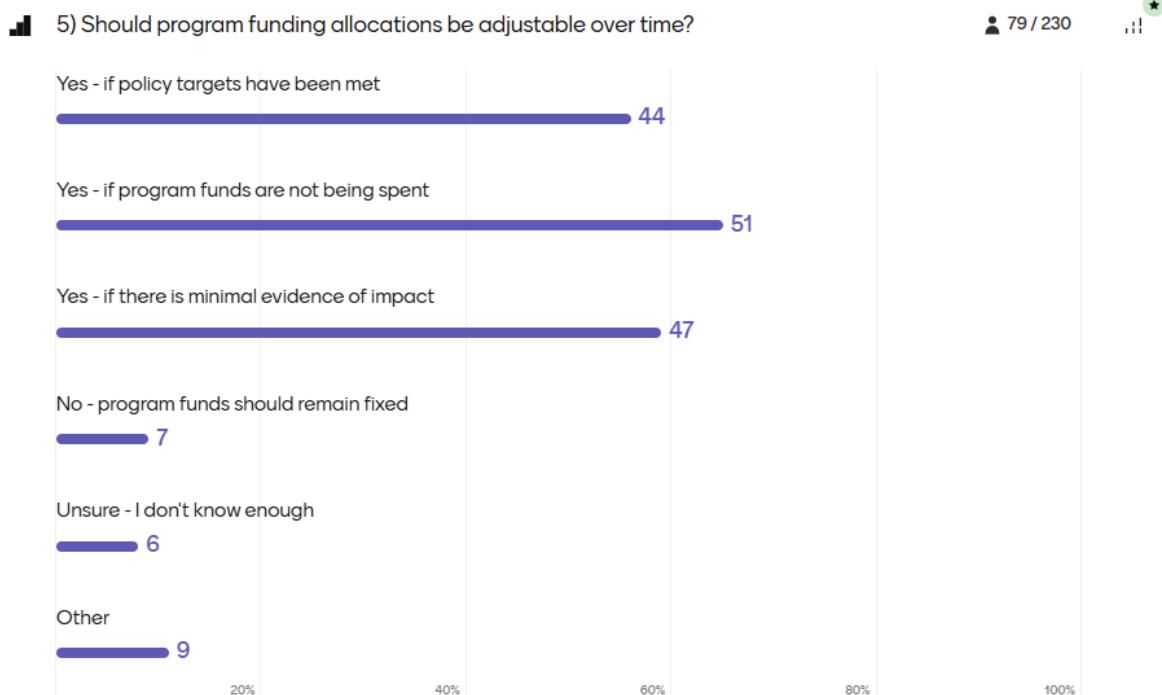
The screenshot below shows the summary of how people who answered this question ranked which areas people would first increase funding to advance equity. One (1) was the first that would get increased funding and 4 was the last to get increased funding.

**F** 4) Of the programs we've traditionally funded, assume more funding was available. 99 / 230

Which areas would you increase funding first to best advance equity?

- > 1 Clean Mobility Projects (currently \$200m/year)
- > 2 Clean Cars 4 All (currently \$200m/year)
- > 3 Financing Assistance (loans) (currently \$150m/year)
- > 4 Other

## Question 5: Should program funding allocations be adjustable over time?



## **Question 6: Don't think about specific programs. If you were responsible for next year's budget, how would you rank these outcomes in terms of importance?**

The screenshot below shows the summary of how people who answered this question ranked which outcomes they felt were most important. One (1) was the highest importance and 5 was the lowest importance.

6) Don't think about specific programs. If you were responsible for next year's budget, how would you rank these outcomes in terms of importance? 82 / 230

- > 1 Expanding access to zero-emission vehicles and charging
- > 2 Reducing greenhouse gas and air pollution emissions
- > 3 Supporting underserved and overburdened communities
- > 4 Improving community-based mobility options (e.g., transit, bike share, carshare, school-based mobility)
- > 5 Creating local jobs, training, and long-term economic benefits

## **Question 7: Think about the current programs. What's missing? What barriers do you or your communities face in accessing zero-emission transportation?**

*Table below was compiled by staff based on Mentimeter responses.*

<b>Theme</b>	<b>Total Votes</b>	<b>Representative Responses Identified by CARB Staff</b>
Funding/ Sustained Funding	42	funding, adequate funding, disparate funding, lack of sustained funding, sustained funding, sustainable funding, continuity, continuous funding, inconsistent funding, long term funding, more continuous funding, need sustained funding
Infrastructure	25	infrastructure, charging, connectivity, cordsets, charging and service, charging infrastructure, infrastructure from PG&E, public charging network, safe infrastructure, regulate electric vehicle supply equipment (evse)
Education	17	education, training, lack of education, training mechanics, electric vehicle (ev) charger maintenance training

<b>Theme</b>	<b>Total Votes</b>	<b>Representative Responses Identified by CARB Staff</b>
Jobs	2	Workforce development, job opportunities
Adapters	10	Adapters
Equity	12	equity, disadvantaged community (DAC) support, equity provides choices, justice
Affordability	16	cost, affordability, cost effectiveness, cost of electricity, upfront costs, vehicle cost
E-bikes	9	e-bikes, ebikes, e-motorcycles
Repair & Maintenance	8	repair, functioning chargers, maintenance, mechanics, repairability, upkeep
Transit	6	transit system, public transit, transit
Accessibility	3	accessibility, easy access
Language & Information Accessibility	5	language support, language access, languages, access to information
Rural Needs	3	rural, rural access, rural charging infrastructure
Miscellaneous	n/a	car free spaces, community engagement, community-input, comprehensive integrated, de-emphasizing internal combustion engines, dealership support, electrical capacity, feasibility, fire, flexibilities, fun, guardrails, homeowner's association (hoa) agreement, hub, insurance, leadership from carb, long-term vision, more scrap and replace, multi-family, no to clean mobility options (cmo), on the ground outreach, options, planning capacity grants, power building, rate of adoption, regional needs, simple process, statewide, strategic risk management, system, transparency, use case, vehicle miles traveled (vmt) mitigated

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## **Question 8: What is one message you would like decision-makers to take away from today's discussion?**

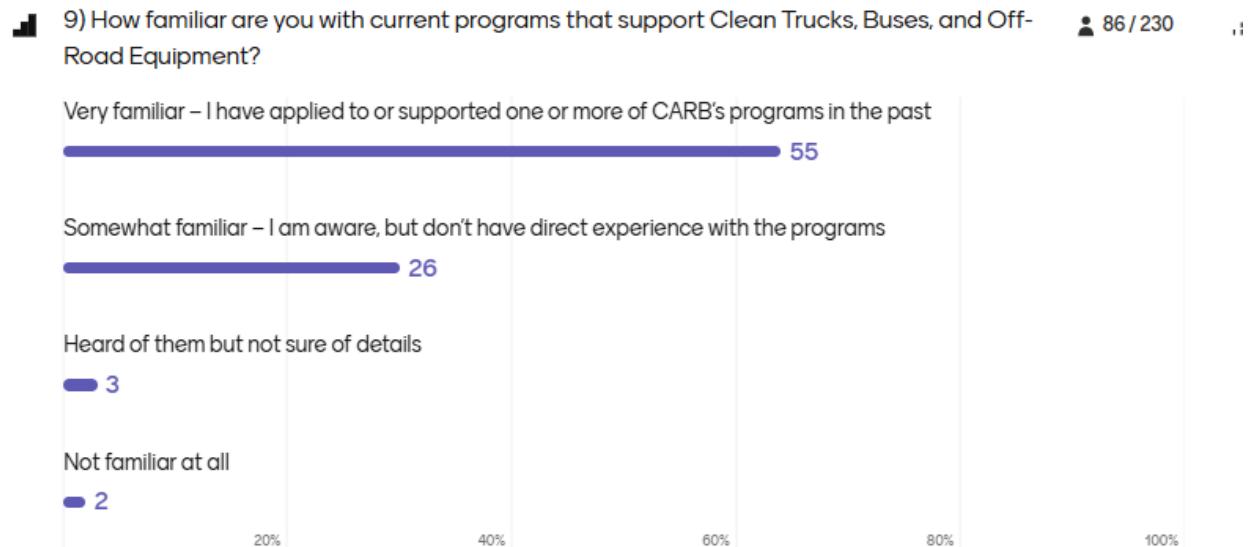
*Table below was compiled by staff based on Mentimeter responses.*

<b>-Rank</b>	<b>Feedback Theme</b>	<b>Total Votes</b>
1	Focus on programs with demonstrated success and that meet air quality goals	38
2	Equity must be the number one priority, especially with limited funding	14
3	Make it easier to get more funding for zero-emission incentives	13
4	Fund EV and charging incentives equitably	13
5	Shift mobility: more public transit, walkable cities, fewer cars	13
6	Each community is different; tailor programs to local needs	12
7	ALWAYS focus on historically underserved communities	11
8	Funding is needed (general)	10
9	Prioritize community-oriented programs over personal vehicles	10
10	Bring back e-bike funding and prioritize equity	9
11	Equity is a process, not just an outcome – ensure accountability	9
12	Repair and maintenance deserve attention	9
13	Incentives are more important due to loss of federal support	8

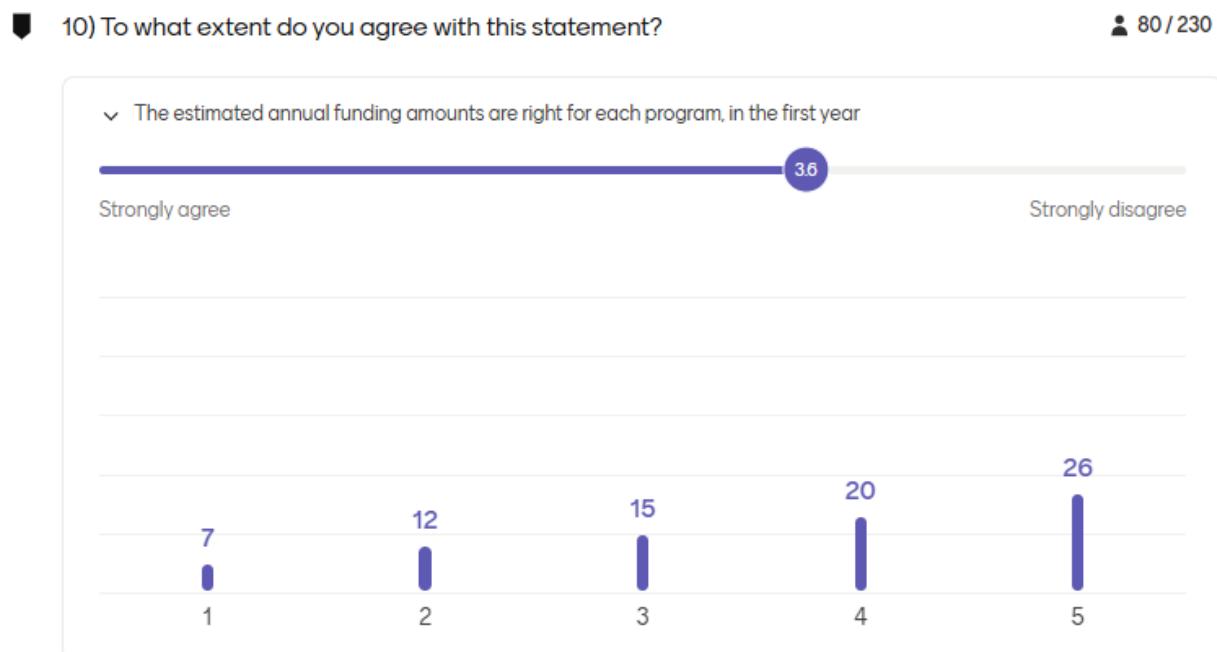
<b>-Rank</b>	<b>Feedback Theme</b>	<b>Total Votes</b>
14	Prioritize Clean Mobility Options (CMO)	8
15	Prioritize equitable access to clean, reliable transit and shared mobility	7
16	Support Clean Cars for All (CC4A) and similar programs	5
17	Communities need an ecosystem of solutions and incentives	4
18	Fund what works, discard what doesn't	4
19	Transparency and multi-language support	4
20	Consider used EV incentives and multifamily housing needs	3-6
21	Public transportation is essential to zero-emissions targets	2
22	Education and training (mechanics, ZEV ownership, language support)	2
23	Rural communities need tailored support and infrastructure	2-3

## Clean Trucks, Buses, and Off-Road Equipment Incentive Projects and Emerging Opportunities Input Session (afternoon)

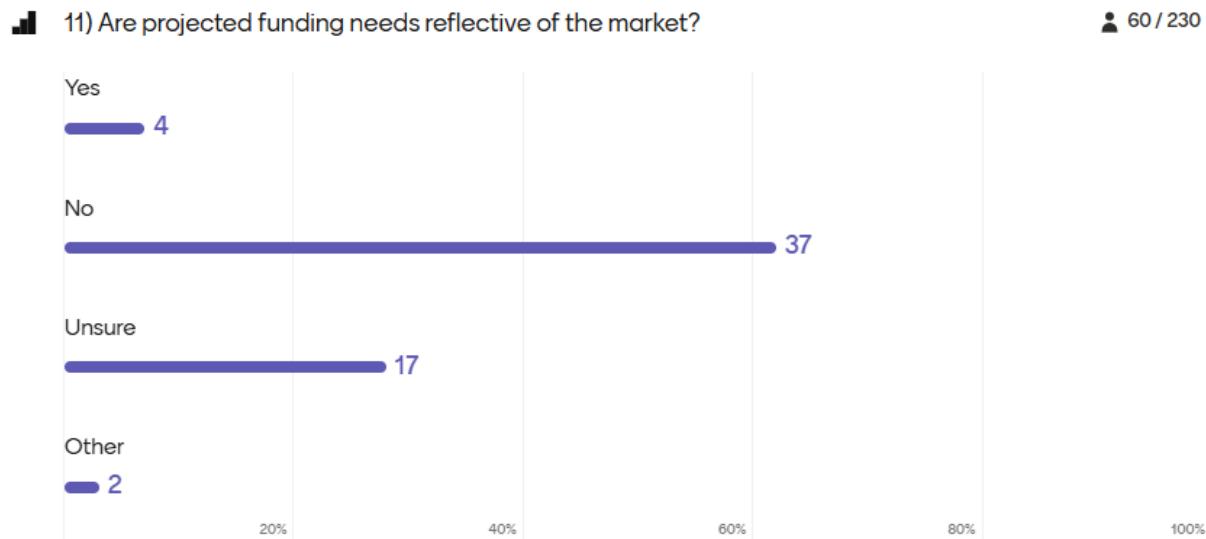
### Question 9: How familiar are you with current programs that support Clean Trucks, Buses, and Off-Road Equipment?



### Question 10: To what extent do you agree with this statement?



## Question 11: Are projected funding needs reflective of the market?



## Question 12: What pre-commercial technologies do we need to be focusing on?

Table below was compiled by staff based on Mentimeter responses.

Response Category	Frequency	Additional Detail (if applicable)
Battery technology	10	Responses included solid-state batteries, sodium batteries, better batteries, new chemistries, energy density, battery connected charger, battery swapping
Vehicle-to-Grid (V2G)	8	
Range extenders	6	Responses included range extender (rex), Extended Range EV (erev), battery electric vehicle (BEV) range extender, PHEV range extender, Range-Extended EVs (REEV) like China has
Fuel cell technology	7	Responses included fuel cell trucks, hydrogen fuel cell tech, hydrogen losses, liquid hydrogen fueling

Response Category	Frequency	Additional Detail (if applicable)
Vehicle types	4	Responses included class 3-8 trucks, long-haul trucks, yard trucks
Vehicle Miles Traveled (VMT)	2	
Disposal	2	
Innovative ag technology	2	
Megawatt charging	2	
Comparable EV range	1	
Defense innovation unit	1	
Focus on commercial tech	1	
Hybrid	1	
Intellitrailers	1	
MCS	1	
Next gen energy	1	
Pop up depots	1	
Rail	1	
TRU integration	1	
ZEV education	1	

### **Question 13: What commercially-available technologies should we be focusing on?**

*Table below was compiled by staff based on Mentimeter responses.*

Response Category	Frequency
BEV	44
Natural Gas	18
Near Zero Emission	18

<b>Response Category</b>	<b>Frequency</b>
Yard Trucks	16
Medium Duty	13
Infrastructure	8
Fuel Cell	7
Hydrogen	5
Hybrid	4
Electric Trucks	4
Clean Natural Gas (CNG)	4
Drayage	3
Class 4-6	2
batteries	1
class 8 trucks and buses	1
e-combines	1
ev delivery truck	1
flexible interconnection	1
flexible service connect	1
good planning	1
grid modernization	1
Hydrogen Internal Combustion Engine (h2ice)	1
heavy-duty trucks	1

Response Category	Frequency
high power direct ac dc c (We're interpreting this to mean alternating and direct current. Or fast charging)	1
last mile	1
long haul fleets	1
low nitrogen oxides (nox) trucks	1
megawatt charging	1
mobile power unit	1
not fuel cell	1
technician	1
terminal equipment	1
Transport refrigeration units (tru) for class 5	1
truck replacement program	1
zero-emission trucks	1
zero-emission vehicles (zev)	1

## Question 14: Are any medium- and heavy-duty funding needs missing?

Table below was compiled by staff based on Mentimeter responses.

Response Category	Total Votes
Equipment Replacement	45
Charging Infrastructure	32
Natural Gas	18
Yard Trucks	16

Response Category	
Drayage Trucks	11
Insurance	10
Vehicle Types	10
Battery Storage	9
Hybrids	8
Hydrogen	8
Equity and Access	5
Other	5
Taxes and Fees	2
Zero Emission Support	1
Off-road and Rural	1

### **Question 15: Should we consider other funding sources (e.g., what are some creative ways to generate more revenue streams?)**

*Table below was compiled by staff based on Mentimeter responses.*

Theme	Total Votes	Representative Responses
<b>CARB Enforcement Funds Directed to Air Districts / Non-Supplemental Environmental Projects (SEP) Programs</b>	37	CARB enforcement funds directed to air districts to implement programs (various phrasings); Non-SEP enforcement fund uses; Replacement programs separate from SEP; Local air district implementation of enforcement revenue
<b>Statewide Indirect Source Rule (ISR)</b>	26	Statewide ISR; Statewide indirect source rule; ISR
<b>Delivery Fees / Clean Fleet Funding (Colorado-style)</b>	15	Clean delivery fees (Colorado-style); E-retail delivery fees; Last-mile delivery fees (including internal combustion

Theme	Total Votes	Representative Responses
		engine-specific (ICE-specific); Feebates; By-the-mile fueling; Container fees
<b>Vehicle-to-Grid (V2G) / Virtual Power Plan (VPP) / Grid Benefits</b>	9	V2G/VPP; V2G benefits
<b>Sales Tax Incentives / Waivers</b>	10	Sales tax holiday for ZEV trucks (funded by ICE tax increase); Waive sales taxes on ZE trucks; Sales tax-related incentives
<b>Carbon Pricing / Credits / Tax</b>	7	Carbon tax; Carbon credits; Subsidies for carbon sequestration; Feebates
<b>Permits / Overweight / Weight-Based Fees</b>	5	Overweight permits; Weight-based permits
<b>Clean Truck &amp; Bus Voucher Incentive Program (HVIP) / Original Equipment Manufacturer (OEM) Accountability</b>	2	Cancel HVIP vouchers from out-of-business or bankrupt OEMs
<b>Miscellaneous Individual Suggestions</b>	Various (1 each unless noted)	<p><b>Funding:</b> Bonds, General Fund, Mega Millions (3);</p> <p><b>Policy:</b> Mandated Moyer allocation, ZE zones with diesel passes, Guard rails, Milestones;</p> <p><b>Program Adjustments:</b> Streamline permitting, non-cost-effective drayage incentives;</p> <p><b>Other:</b> State Implementation Plan Emission Reduction Credits (SIP ERC), California Energy Commission (CEC) Clean Transportation Program, Congestion Mitigation and Air Quality (CMAQ) Formula Funding, Road charging, VMT incentives, Eliminate hydrogen/hybrid funding, Low Carbon Fuel Standard (LCFS) to ZEV, balanced budget</p>

## **Question 16: How can private industry and investments further support the market?**

*Table below was compiled by staff based on Mentimeter responses.*

<b>Theme</b>	<b>Total Votes</b>	<b>Representative Responses</b>
<b>Incentives to Support Transition to ZEVs</b>	66	Ensure incentives are sufficient; stack incentives; focus on large fleets
<b>Indirect Source Rule (ISR)</b>	39	ISR; Statewide ISR
<b>Affordability / Pricing Transparency / OEM Pricing</b>	33	Lower prices; stop markups; pricing transparency; affordable products
<b>Infrastructure Investment &amp; Charging</b>	14	Share infrastructure cost; charging; better batteries; hydrogen fueling
<b>Financing &amp; Lending Support</b>	9	Flexible financing; loan loss reserve; stable funding; Continuous, stable funding would provide more certainty for private investment (8)
<b>Support for Smaller Fleets/ OEM Diversity</b>	4	Boost smaller OEMs; support smaller fleets
<b>Public-Private Partnerships/ Procurement Standards</b>	5	Public-private partnerships; CA preferred purchaser
<b>Policy Alignment/ Advocacy</b>	7	Align with CA standards; stop anti-EV lobbying
<b>Technology Development/ Innovation</b>	4	Range extenders; battery recycling; TRU integration
<b>Market Development/ Scale</b>	1	No attraction to private capital until scale is reached in Medium- & Heavy-Duty (MHD) ZEVs

## **Question 17: What is one message you would like decision-makers to take away from today's discussion?**

*Table below was compiled by staff based on Mentimeter responses.*

<b>Theme</b>	<b>Total Votes</b>	<b>Representative Responses</b>
<b>Funding and Incentives</b>	58	Stable and consistent funding; Incentives to reduce ZEV costs; Grant support; Market seeding; Cost-effectiveness
<b>Proven Programs and SIP Reductions</b>	51	Programs with demonstrated success; SIP-creditable emission reductions; Prioritizing effective, results-driven initiatives
<b>ZEV and Emission Technology</b>	19	Support for zero-emission and near-zero technologies; Opposition to hybrids and hydrogen; Calls for ZEV-only approaches
<b>Policy and Strategy</b>	13	Calls for clear policy direction; Strategic planning; Transparency and accountability; Use of ISR (Indirect Source Rules)
<b>Local Implementation</b>	11	Support for local vs. statewide implementation; Emphasis on local air districts and community-level programs
<b>OEM and Market Support</b>	10	Encouraging OEM participation; Market readiness; Business practicality; Driving scale and consumer adoption
<b>Other</b>	11	"Solve the overweight issue" (3 votes); "Put more focus on non-road equipment" (2 votes); "Consider medium heavy duty truck segments that haven't been served by current BEVs. Areas where range may be unacceptable, or doesn't meet job site requirements" (1 vote); "Near zero emission technology should be considered" (1 vote); "Take today as a starting point for feedback. A lot of missing segments and voices in the room" (3 votes)