



July 8, 2016

California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: 2030 Target Scoping Plan Update – Concept Paper

The California Electric Transportation Coalition (CalETC) appreciates the opportunity to comment on the 2030 Scoping Plan Update – Concept Paper, developed by the California Air Resources Board in collaboration with other state agencies.

CalETC is a non-profit association promoting economic growth, clean air, fuel diversity and energy independence, and combating climate change through the use of electric transportation. CalETC is committed to the successful introduction and large-scale deployment of all forms of electric transportation including plug-in electric vehicles of all weight classes, transit buses, port electrification, off-road electric vehicles and equipment, and rail. Our board of directors includes: Los Angeles Department of Water and Power, Pacific Gas and Electric, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, and the Southern California Public Power Authority. Our membership also includes major automakers, manufacturers of zero-emission trucks and buses, and other industry leaders supporting transportation electrification.

We respectfully submit the following comments:

Utilities and Automotive Industries Are Making Substantial Contributions

CalETC believes it is important to specifically recognize the significant emission reduction contributions made by utilities and the automotive industry in support of California's emission reduction goals. California utilities have implemented the most progressive programs in the nation contributing to emission reductions, including energy efficiency, renewable electricity and transportation electrification. With the passage of [SB 350](#) (*Chapter 547, Statutes of 2015*), utilities' obligations increase significantly and the utility role in transportation electrification expands. The automotive industry has invested and continues to invest billions of dollars in clean and zero-emission vehicle technologies that are critical to meeting California's climate change and air quality goals. The Zero-Emission Vehicle Program, light-duty fleet emissions standards and sustainable freight plan will be challenging in the coming years. These programs will require increasing collaboration between the utility and automotive industries, substantial support from both industries and consistent reliable public investment.

Preference for Concept 1

The current model of complementary policies with cap-and-trade program is working well, balancing both the need for traditional regulation and the economic benefits of market-based regulation. Of the concepts presented, CalETC believes Concept 1, with the addition of a commitment to public investment in incentive programs per below, is preferable relative to the other concepts presented.

Utility Role in Transportation Electrification

As stated in the Concept Paper, and included in all four of the high-level concepts on pages 21-28, the transition to zero-emission technologies across all transportation sectors will be key to achieving the state's 2030 and 2050 greenhouse-gas emission reduction goals. We believe that the role of utilities concerning California's transportation-electrification goals should be specifically addressed in the Draft Scoping Plan. Utilities share the state's commitment to transportation electrification and can play a broad role, including: investing in infrastructure; educating consumers, including those consumers that are utility customers; purchasing electric vehicles for their fleets; keeping the grid safe, reliable, efficient and affordable as we make the transition to electricity in the transportation fuels sector; and collecting valuable data. Experience has demonstrated that when utilities are engaged with the regulators and their customers, the market success of transportation electrification is increasingly likely.

Low Carbon Transportation Funding

Supporters of low-carbon transportation have had to fight for an allocation of the California Climate Investments (CCI) every year because the low-carbon transportation programs do not have a continuous allocation of CCI funds. The funding uncertainty for these programs affects their viability and creates uncertainty in the market. At the end of 2015, plug-in electric vehicles (PEVs) represented only 3.1% of the new vehicle market in California and only 0.66% in the U.S.¹ Sales for conventional hybrids only reached 5.8% in California last year,² even though this technology has been widely available and accessible for over a decade. We urge the Draft Scoping Plan to recognize the need for unwavering state commitment and investment to overcome these challenges. The Draft Scoping Plan should also lay out clear and certain funding sources—whether the funding source is a cap-and-trade program, penalties from a declining GHG cap on industrial sources, or a carbon tax, as contemplated in the Concept Paper—as this would provide a clear market signal to those investing in transportation electrification. Private investment will follow clear, consistent public commitment and investment.

Economic Analysis Considerations

The Concept Paper describes the modeling and analysis that will take place to inform the Draft Scoping Plan. CalETC encourages the Air Resources Board, and the Joint-Agency Workgroup, to include the benefits of reduced petroleum consumption and the grid benefits of transportation electrification in the analysis, as described below.

We encourage the Air Resources Board, and the Joint-Agency Workgroup, to incorporate the benefits of petroleum displacement—which also results in GHG emission and criteria pollutant reductions—in the economic analysis portion of the Draft Scoping Plan. Paul Leiby at the Oak Ridge National Laboratory (ORNL) estimated the energy security benefits of reduced US oil imports. The research focuses on two components of energy security benefits: monopsony and macroeconomic disruption or adjustment costs.

¹ See, e.g., Cobb, Jeff, California Plug-in Sales Led The US Last Year with Nearly Five-Times Greater Market Share, February 17, 2016, <http://www.hybridcars.com/california-plug-in-sales-led-us-last-year-with-nearly-five-times-greater-market-share/>.

² *Ibid.*

The benefit of displacing imported oil is reported with a midpoint of nearly \$14 per barrel of oil (in 2004 dollars).³

We also encourage the Air Resources Board, and the Joint-Agency Workgroup, to consider the quantitative and/or qualitative grid benefits of transportation electrification in the economic analysis of the Scoping Plan. Increasing the use of electricity for transportation provides net benefits for both society and utility ratepayers. These grid benefits of plug-in electric vehicles were examined in the California Transportation Electrification Assessment: Phase 2 Grid Impacts Report prepared by ICF International and E3 in October 2014.⁴

Overlap with the California Sustainable Freight Action Plan and the Mobile Source Strategy

Each of the four high-level concepts incorporates existing and planned state and agency actions. We recently submitted comments on the Mobile Source Strategy and the Draft California Sustainable Freight Action Plan. While we were largely supportive of the proposed actions and concepts in these two plans, we offer two recommendations that tie into this Concept Paper.

In order to reach the state's GHG reduction targets, we recommend that the zero-emission vehicles and equipment target in the California Sustainable Freight Action Plan (CSFAP)—to deploy over 100,000 freight vehicles and equipment capable of zero-emission operation by 2030—be increased to 400,000. As detailed on pages 3-5 of our comment letter on the CSFAP (included as attachment 1), increasing the target to 400,000 reflects an appropriately ambitious minimum for 2030, reflective of California's leadership on and commitment to transitioning to zero-emission technologies.

In addition, CalETC supports the commitment to zero-emission technologies everywhere feasible, and near-zero emission technologies powered by clean renewable fuels everywhere else, as stated in both the Mobile Source Strategy and the CSFAP. We encourage the Draft Scoping Plan to include the goal of transitioning to zero-emission technologies within all transportation sectors. We also encourage the Draft Scoping Plan to describe the existing and emerging "game-changers" that could allow a faster and steeper adoption of zero-emission technologies among the transportation sectors.⁵

Thank you for your consideration. Please do not hesitate to contact us should you have any questions.

³ Leiby, P. Estimating the Energy Security Benefits of Reduced U.S. Oil Imports, Oak Ridge National Laboratory, ORNL/TM-2007/028, 2007. Available online at: <http://www.epa.gov/otag/renewablefuels/ornl-tm-2007-028.pdf>

⁴ ICF and E3, Transportation Electrification Assessment, Phase 2 Grid Impacts, October 2014. Available on line at http://www.caletc.com/wp-content/uploads/2014/10/CalETC_TEA_Phase_2_Final_10-23-14.pdf

⁵ For example, battery prices have fallen dramatically. (See, e.g. Harrington, Rebecca, Tech Insider, *One dramatic chart shows why electric cars are about to become mainstream*, March 29, 2016, <http://www.techinsider.io/electric-vehicle-battery-cost-decreases-2016-3>.) Investor-owned utilities have been directed by the Legislature in SB 350 to have an expanded long-term role to help enable electric transportation. Both large truck manufacturers with global distribution and Chinese truck makers have entered into the electric truck and bus markets. Finally, commercialization of zero-emission trucks and buses is accelerating because of the many substantial federal, state, and local funding programs.

Sincerely,

A handwritten signature in blue ink, appearing to read "Eileen W. Tutt". The signature is fluid and cursive, with the first name "Eileen" and last name "Tutt" clearly distinguishable.

Eileen Wenger Tutt, Executive Director
California Electric Transportation Coalition

Attachments: CalETC Comments on the *California Sustainable Freight Action Plan – Draft Discussion Document* and *Mobile Source Strategy*, submitted June 23, 2016.



June 23, 2016

To: Interagency Partners: California State Transportation Agency, California Environmental Protection Agency, California Natural Resources Agency, California Air Resources Board, California Department of Transportation, California Energy Commission, Governor's Office of Business and Economic Development

Re: **California Sustainable Freight Action Plan – Draft Discussion Document**

The California Electric Transportation Coalition (CalETC) appreciates the opportunity to comment on the California Sustainable Freight Action Plan – Draft Discussion Document, released May 2016 (Plan).

CalETC is a non-profit association promoting economic growth, clean air, fuel diversity and energy independence, and combating climate change through the use of electric transportation. CalETC is committed to the successful introduction and large-scale deployment of all forms of electric transportation including plug-in electric vehicles of all weight classes, transit buses, port electrification, off-road electric vehicles and equipment, and rail. Our board of directors includes: Los Angeles Department of Water and Power, Pacific Gas and Electric, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, and the Southern California Public Power Authority. Our membership also includes major automakers, manufacturers of zero-emission trucks and buses, and other industry leaders supporting transportation electrification.

CalETC supports the interagency partners' efforts to establish clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system, as directed by the Governor's Executive Order B-32-15.

We urge the interagency partners to keep in mind the tremendous challenges inherent in transitioning the freight sector to zero-emission technologies, and the need for state commitment and investment to overcome these challenges. As an example, with light-duty vehicles, at the end of 2015 plug-in electric vehicles (PEVs) represented only 3.1% of the new vehicle market in California and only 0.66% in the U.S.¹ Sales for conventional hybrids only reached 5.8% in California last year,² even though this technology has been widely available and accessible for over a decade. We urge the interagency partners to recognize the need for unwavering state commitment and investment to overcome these challenges. Private investment will follow clear, consistent public commitment and investment.

¹ See, e.g., Cobb, Jeff, California Plug-in Sales Led The US Last Year with Nearly Five-Times Greater Market Share, February 17, 2016, <http://www.hybridcars.com/california-plug-in-sales-led-us-last-year-with-nearly-five-times-greater-market-share/>.

² *Ibid.*

We respectfully submit the following comments for your consideration:

Summarized Comments:

- CalETC supports the Plan’s vision for a sustainable freight transport system.
- We support the Plan’s emphasis on partnerships and collaboration and we recommend that more zero-emission pilots are needed in the near-term.
- We encourage the interagency partners to include the economic benefits of transitioning to a zero-emission freight system.
- CalETC recommends that the zero-emission vehicles and equipment target—to deploy over 100,000 freight vehicles and equipment capable of zero-emission operation by 2030—be increased to 400,000.
- We encourage the interagency partners to recognize the necessity of consistent, sustained, and adequate state funding for the transition to a sustainable freight transport system.
- CalETC recommends that the Plan specifically recommend a long-term, large-scale, and comprehensive role for utilities in achieving the specified freight goals and targets.

Full Comments:

General Considerations

CalETC supports the Plan’s vision for a sustainable freight transport system. In addition to the other components of the vision statement, we strongly support the intention to transition the freight system to zero-emission equipment everywhere feasible, and near-zero-emission equipment powered by clean, low-carbon renewable fuels everywhere else. We support the inclusion of supporting infrastructure to achieve this goal, in addition to the zero-emission vehicles and equipment. We also support the Plan’s use of “zero-emission operation,” rather than zero-emission miles, as this is appropriate for equipment such as forklifts and power takeoff units on trucks. Finally, we support the interagency partners’ intent to improve freight-system efficiency, transition to zero-emission technologies, and foster economic growth within the freight system.

CalETC supports the Plan’s emphasis on partnerships and collaboration and we recommend that more zero-emission pilots are needed in the near-term. Throughout the Plan, the importance of public, industry, and stakeholder collaboration and partnerships is emphasized as necessary to meet the Plan’s vision. We support this emphasis and look forward to continuing to work with the interagency team to refine and implement the Plan.

Specifically, we look forward to collaborating with the interagency team on the pilot projects to ensure that the projects successfully reflect the zero-emission technology target. While the potential pilot projects and discussion concepts listed in Appendixes D and E are important, we recommend that the state agencies form partnerships with interested stakeholders to develop additional pilots because zero-

and near-zero-emission freight technologies are at a “game-changing” moment³ and because there are many different types of zero- and near-zero-emission freight technologies.⁴ As the Plan is implemented, there should also be opportunities to adjust pilot projects based upon emerging and commercialized zero-emission solutions that will be introduced to the market.

CalETC encourages the interagency partners to include the economic benefits of transitioning to a zero-emission freight system. The Plan emphasizes the need to foster economic growth, but also contemplates the negative impacts to existing industries. Transitioning to a sustainable freight transport system, and to zero-emission technologies, has the potential to bring California substantial economic benefits. Many of the manufacturers of zero- and near-zero-emission technologies are located in California, and many more could be located in California in the future with a concerted effort by agencies, utilities, and other stakeholders. It is essential to highlight and analyze these growth opportunities and economic benefits in order to sustain support for the Plan and its related programs.

In addition, purchasing electricity as a fuel benefits California’s and the United States’ economies as California utilities supply electricity to the California freight system and utilities produce electricity within California and the United States. Using electricity as a fuel for vehicles and equipment displaces traditional fossil fuels, which are generally procured from outside the United States.⁵ And, all utility customers benefit from increasing efficiencies across the electric grid, which puts downward pressure on electric rates.⁶

Freight Targets

CalETC recommends that the zero-emission vehicles and equipment target—to deploy over 100,000 freight vehicles and equipment capable of zero-emission operation by 2030—be increased to 400,000. The current minimum target of 100,000 is not high enough to be consistent with the Plan’s vision, and does not accurately reflect other state priorities and programs to transition the freight sector to zero-emission vehicles and equipment.

³ For example, battery prices have fallen dramatically. (See, e.g. Harrington, Rebecca, Tech Insider, *One dramatic chart shows why electric cars are about to become mainstream*, March 29, 2016, <http://www.techinsider.io/electric-vehicle-battery-cost-decreases-2016-3>.) Investor-owned utilities have been directed by the Legislature in SB 350 to have an expanded long-term role to help enable electric transportation. Both large truck manufacturers with global distribution and Chinese truck makers have entered into the electric truck and bus markets. Finally, commercialization of zero-emission trucks and buses is accelerating because of the many substantial federal, state, and local funding programs.

⁴ For example, there are currently battery electric vehicles and equipment, plug-in hybrid electric vehicles and equipment using various types of fuel for the engine, dual-mode electric vehicles using a combination of batteries, overhead wire catenary systems paired with vehicles and equipment, conductive rail, and/or inductive rail, magnetic-levitation trains, battery-electric or over-head wire locomotives, and others.

⁵ See, e.g., Roland-Holst, David, University of California, Berkeley, *Plug-in Electric Vehicle Deployment in California: An Economic Assessment*, September 2012, http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ETC_PEV_RH_Final120920.pdf; see also <https://www.eia.gov/state/analysis.cfm?sid=CA>.

⁶ ICF International and Energy+Environmental Economics, *Transportation Electrification Assessment, Phase 2: Grid Impacts*, October 23, 2014, pp 17-18, 51-54, http://www.caletc.com/wp-content/uploads/2014/10/CalETC_TEA_Phase_2_Final_10-23-14.pdf.

The California Air Resources Board's Mobile Source Strategy identifies the following goods-movement equipment currently in use in California: approximately 1.1 million in-state class 2B and last-mile delivery trucks;⁷ approximately 250,000 in-state class 7 and 8 heavy-duty trucks;⁸ approximately 100,000 forklifts.⁹ The Air Resources Board's technology assessments also identify: 4,600 cargo-handling equipment at California's ports and intermodal rail yards, not including warehouse distribution centers,¹⁰ 7,000 truck transport refrigeration units (TRUs) based in California, 20,400 trailer TRUs based in California and another 12,500 that are based outside of California and operate in California, and 1,300 railcar TRUs operating in California.¹¹ Taking into account these specified vehicles and equipment, in addition to those not included within these figures, the 100,000 target is likely less than 5% of the total goods-movement vehicles and equipment used in California.

CalETC also notes that the Transportation Electrification Assessments (TEAs) by ICF International and Energy+Environmental Economics project and analyze three adoption scenarios for certain commercial and non-road plug-in electric technologies.¹² The "in-line with current adoption" scenario projects 293,016 plug-in electric units in operation by 2030.¹³ The "aggressive adoption" scenario projects 6,028,557 plug-in electric units in operation by 2030.¹⁴ And, the "in-between adoption" scenario projects 479,274 units in operation by 2030; we have over 118,500 plug-in electric units today (mostly forklifts).¹⁵ (Note that these projections include a subset of applicable technologies: transport refrigeration units,

⁷ California Air Resources Board, Mobile Source Strategy, May 2016, p. 81, <http://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.pdf>.

⁸ *Ibid.*

⁹ California Air Resources Board, Mobile Source Strategy, May 2016, p. 131, <http://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.pdf>.

¹⁰ California Air Resources Board, Draft Technology Assessment: Mobile Cargo Handling Equipment, November 2015, p. ES-2, http://www.arb.ca.gov/msprog/tech/techreport/che_tech_report.pdf.

¹¹ California Air Resources Board, Technology Assessment: Transport Refrigerators, August 2015, pp. ES-1 – ES-2, http://www.arb.ca.gov/msprog/tech/techreport/tru_07292015.pdf.

¹² ICF International and Energy+Environmental Economics, *Transportation Electrification Assessment, Phase 1*, September 2014, http://www.caletc.com/wp-content/uploads/2014/09/CalETC_TEA_Phase_1-FINAL_Updated_092014.pdf; ICF International and Energy+Environmental Economics, *Transportation Electrification Assessment, Phase 3-Part A: Commercial and Non-Road Grid Impacts*, January 2016, <http://www.caletc.com/wp-content/uploads/2016/01/California-Transportation-Electrification-Assessment-Phase-3-Part-A.pdf>.

¹³ ICF International and Energy+Environmental Economics, *Transportation Electrification Assessment, Phase 1*, September 2014, p. 10, http://www.caletc.com/wp-content/uploads/2014/09/CalETC_TEA_Phase_1-FINAL_Updated_092014.pdf. [The "In Line with Current Adoption" case for many technologies maintains the current population of electrified technologies, includes minimal anticipated natural growth, or achieves minimum compliance with current state and/or federal regulations. Electrification was not assumed to be the only avenue for compliance for regulations where multiple compliance options are available (e.g. anti-idling, ocean going vessels at-berth, TRUs).]

¹⁴ *Id.* at p. 19. [The "Aggressive Adoption" case for many technologies includes aggressive new incentive programs and/or regulations, especially regulations similar to the mandate at the ports. "Aggressive adoption" cases are not simply the hypothetical maximums, but are tangibly aggressive and anticipate achieving compliance with regulations where electrification is not the only avenue for compliance (e.g. anti-idling, ocean going vessels at-berth, TRUs) solely through electrification.]

¹⁵ *Id.* at pp. 10, 15. [The "In Between" case for many technologies is halfway in between the "In Line with Current Adoption" and "Aggressive Adoption" cases except for a few more advanced technologies. For these technologies, specific "In Between" cases were developed.]

truck-stop electrification (spaces), forklifts (classes 1-3), airport ground-support equipment, port cargo-handling equipment, medium- and heavy-duty vehicles.)

We encourage the interagency partners to increase the target—to deploy over 100,000 freight vehicles and equipment capable of zero-emission operation by 2030—to reflect a more ambitious minimum for 2030, reflective of California’s leadership on and commitment to transitioning to zero-emission technologies. The increased target should take into account concurrent federal and state actions to transition goods-movement vehicles and equipment to zero-emission technologies. And, an increased target should be ambitious enough to encourage public and private investment in these technologies and supporting infrastructure.

We believe a minimum of 400,000 freight vehicles and equipment capable of zero-emission operation by 2030 is a reasonable target. This target is a rational minimum as it is higher than what is expected given current adoption rates, but is also a practical and feasible target to encourage enhanced funding and regulatory mechanisms. The target must be higher than currently proposed in order to reach the objective, in the Governor’s Executive Order B-32-15, to transition to zero-emission technologies.

We also recommend that the interagency partners further break down this figure into categories, such as on- and off-road, long- and short-haul, infrastructure and stationary equipment, and more, as appropriate. Including categories will ensure that the benefits realized from transitioning these technologies are maximized. For example, the target should not be met solely through transitioning to zero-emission forklifts—which appears possible given the current target.

Funding

There is an urgent and growing need for investment in the freight sector; transitioning to zero-emission technologies is a tremendous, comprehensive, large-scale, and long-term challenge. It requires substantial public funding and leveraging the commitment of the industries, including utilities, technology manufacturers, and others, that are supportive of transitioning to zero-emission technologies.

The Plan recognizes the need to obtain consistent, multi-year funding for these programs, from public and private sources. We encourage the interagency partners to recognize the necessity of consistent, sustained, and adequate state funding for the transition to a sustainable freight transport system. CalETC recommends that the Plan’s funding programs require cost-sharing from sources outside of state agencies in order to make limited state funds go further and help accelerate zero-emission and near-zero-emission technology adoption. In addition, we encourage the interagency partners to include the role for utilities to aid in the transition to electrification of the freight sector.

Utility Role

CalETC recommends that the Plan specifically recommend a long-term, large-scale, and comprehensive role for utilities to implement the transportation-electrification provisions of Senate Bill 350 (2015). Both investor-owned utilities and publicly-owned utilities have a role in increasing transportation electrification within California. Publicly-owned utilities are currently investing in transportation electrification, and seeking new ways to be involved across all transportation segments. SB 350 directs investor-owned utilities to propose and implement programs and investments to accelerate widespread transportation electrification in order to help meet several long-term state goals and federal air-quality standards. Further, SB 350 defines transportation electrification in a very broad manner. Many of the interagency partners are and should continue to work with the Public Utilities Commission to implement SB 350 in the most effective fashion, and to extend limited state funds.

To the extent utilities are providing and will provide transportation-electrification infrastructure and investments, state agencies should seek to avoid duplicating or boxing-out utility investment. The Plan should specifically call for a utility public-private partnership regarding, for example: investments in charging and propulsion infrastructure, market-education and outreach programs, incentive programs, pilot projects, and electric rates designed with transportation electrification in mind. Achieving the infrastructure needed to deploy zero-emission technologies is a significant challenge; utility participation is needed to aid both the private and public sector in deploying these technologies.

Thank you for your consideration. Please do not hesitate to contact us should you have any questions.

Sincerely,



Eileen Wenger Tutt, Executive Director
California Electric Transportation Coalition



June 23, 2016

California Air Resources Board
1001 I St.
Sacramento, CA 95814

Re: Mobile Source Strategy; Proposed 2016 State Strategy for the State Implementation Plan

The California Electric Transportation Coalition (CalETC) appreciates the opportunity to comment on the California Air Resources Board's (CARB's) Mobile Source Strategy and Proposed 2016 State Strategy for the State Implementation Plan, released May 2016 (collectively referred to as the Strategies).

CalETC is a non-profit association promoting economic growth, clean air, fuel diversity and energy independence, and combating climate change through the use of electric transportation. CalETC is committed to the successful introduction and large-scale deployment of all forms of electric transportation including plug-in electric vehicles of all weight classes, transit buses, port electrification, off-road electric vehicles and equipment, and rail. Our board of directors includes: Los Angeles Department of Water and Power, Pacific Gas and Electric, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, and the Southern California Public Power Authority. Our membership also includes major automakers, manufacturers of zero-emission trucks and buses, and other industry leaders supporting transportation electrification.

CalETC supports CARB's efforts to ensure a comprehensive Mobile Source Strategy and State Implementation Plan to reduce emissions from the transportation sector in order to meet critical air-quality mandates and climate-change goals. We also recognize the importance of funding programs, in addition to regulatory measures, to ensure the transition to a cleaner transportation system.

Both regulatory and funding programs are necessary to overcome the tremendous challenges inherent in transitioning the mobile-source sector to zero-emission technologies. At the end of 2015, plug-in electric vehicles (PEVs) represented only 3.1% of the new vehicle market in California and only 0.66% in the U.S.¹ Sales for conventional hybrids only reached 5.8% in California last year,² even though this technology has been widely available and accessible for over a decade. We urge CARB to recognize the need for unwavering state commitment and investment to overcome these challenges. Private investment will follow clear, consistent public commitment and investment.

We respectfully submit the following comments for your consideration:

Summarized Comments:

- CalETC supports the incorporation of a broad suite of measures to ensure emission reductions.
- We support the proposed on-road light-duty sector suite of programs.
- We support the emphasis on reducing vehicle miles traveled (VMT), and replacing internal-combustion-engine VMT with zero- or near-zero-emission VMT. However, for certain applications, operation or operating hours is a more appropriate indicator than VMT.

¹ See, e.g., Cobb, Jeff, California Plug-in Sales Led The US Last Year with Nearly Five-Times Greater Market Share, February 17, 2016, <http://www.hybridcars.com/california-plug-in-sales-led-us-last-year-with-nearly-five-times-greater-market-share/>.

² *Ibid.*

- We support the commitment to zero-emission technologies everywhere feasible, and near-zero emission technologies powered by clean renewable fuels everywhere else. We encourage CARB staff to apply the goal of transitioning to zero-emission technologies to all sectors. We also encourage staff to describe the existing and emerging “game-changers” that could allow a faster and steeper adoption of zero-emission technologies among all transportation sectors.
- CalETC supports CARB staff’s recognition that incentive funding is and will continue to be critical to achieve further deployment and adoption of advanced, cleaner technologies.
- We recommend that the Strategies specifically recommend a long-term, large-scale, and comprehensive role for utilities to implement the transportation-electrification provisions of Senate Bill 350 (2015).
- We recommend that CARB staff include all transportation fuels within the gambit of substitutes for conventional gasoline and diesel fuels, in the fuels section and in the proposed fuels measure.

Full Comments:

General Considerations

CalETC supports CARB staff’s approach of incorporating a broad suite of measures to ensure emission reductions within the Strategies, like on-road light-duty, medium- and heavy-duty vehicles, federally- and internationally-regulated sources, off-road vehicles and equipment, and fuels. All mobile sources must be considered in order to reach our air quality and climate goals.

CalETC supports CARB staff’s proposed on-road light-duty sector suite of programs. The Advanced Clean Cars regulations have been instrumental in transitioning California’s light-duty fleet to cleaner technologies, and we support CARB’s plans to encourage continued penetration of these technologies through appropriate regulatory and funding mechanisms.

CalETC supports the emphasis on reducing vehicle miles traveled (VMT), and replacing internal-combustion-engine VMT with zero- or near-zero-emission VMT. However, for certain applications, operation or operating hours is a more appropriate indicator than VMT. For example, with heavier vehicles or vehicles with power takeoff (PTO), converting to electricity can still result in significant emission reductions even when the vehicle is not traveling many miles. Converting to electricity can also reduce emissions produced from idling or powering equipment on the vehicle when the vehicle is stopped. And, with technologies like forklifts, their operation is generally measured in hours, not miles traveled.

CalETC supports the commitment to zero-emission technologies everywhere feasible, and near-zero emission technologies powered by clean renewable fuels everywhere else, as articulated in the Strategies. We encourage CARB staff to apply the goal of transitioning to zero-emission technologies to all sectors, in addition to the freight sector. We also encourage staff to describe the many existing and emerging “game-changers”³ that could allow a faster and steeper adoption of zero-emission technologies among all transportation sectors through CARB and air district efforts. Considering these “game-changers,” we recommend that CARB staff review the current Strategy and set appropriately ambitious goals to transition to cleaner technologies – plug-in electric technologies are now commercially available, or are on the cusp of becoming commercially available, across multiple weight classes. Although the increased emphasis on low NOx trucks in the Strategies is understandable, given the barriers with transitioning heavier classes, there are additional zero and near-zero emission options available that should not be overlooked. For example, CARB may consider encouraging the pairing of the new low NOx engine with plug-in hybrid technology to achieve further emission reductions.

CalETC supports CARB staff’s recognition that incentive funding is and will continue to be critical to achieve further deployment and adoption of advanced, cleaner technologies. In order to ensure further deployment and adoption, we recommend that—to the degree appropriate—these funding programs include cost-sharing requirements. Requiring cost-sharing will result in funding from sources outside of CARB and make limited state funds go further, as well as help accelerate zero-emission and near-zero-emission technology adoption.

Utility Role

CalETC recommends that the Strategies specifically recommend a long-term, large-scale, and comprehensive role for utilities to implement the transportation-electrification provisions of Senate Bill 350 (2015). Both investor-owned utilities and publicly-owned utilities have a role in increasing transportation electrification within California. Publicly-owned utilities are currently investing in transportation electrification, and seeking new ways to be involved across all transportation segments. SB 350 directs investor-owned utilities to propose and implement programs and investments to accelerate widespread transportation electrification in order to help meet several long-term state goals and federal air-quality standards. Further, SB 350 defines transportation electrification in a very broad manner.

CARB and the California Energy Commission are and should continue to work with the Public Utilities Commission to implement SB 350 in the most effective fashion, and to extend limited state funds. To the extent utilities are providing and will provide transportation-electrification infrastructure and investments, state agencies should seek to avoid duplicating or boxing-out utility investment, in order to extend limited state funds. The Strategies should specifically call for a utility public-private partnership regarding: investments in charging and propulsion infrastructure, market-education and outreach programs, incentive programs, pilot projects, and electric rates designed with transportation electrification in mind.

³ Battery prices have fallen dramatically. (See, e.g. Harrington, Rebecca, Tech Insider, *One dramatic chart shows why electric cars are about to become mainstream*, March 29, 2016, <http://www.techinsider.io/electric-vehicle-battery-cost-decreases-2016-3>.) Investor-owned utilities have been directed by the Legislature in SB 350 to have an expanded long-term role to help enable electric transportation. Both large truck manufacturers with global distribution and Chinese truck makers have entered into the electric truck and bus markets. Finally, commercialization of zero-emission trucks and buses is accelerating because of the many substantial federal, state, and local funding programs.

June 23, 2016

Re: Mobile Source Strategy; Proposed 2016 State Strategy for the State Implementation Plan

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Fuels

Within the Fuels section of the Strategies, CalETC recommends that CARB staff include all transportation fuels within the gambit of substitutes for conventional gasoline and diesel fuels. As currently worded, the Strategies are not fuel-neutral and recognize a wide variety of diesel-alternative fuels. We recommend also including electricity, which could be used to displace diesel or any of these listed fuels, either fully or partially (e.g., in a plug-in hybrid). In addition, electricity will continue to get cleaner as more renewables are incorporated into the grid. All transportation fuels should be included in this mix to fully diversify the fuel pool and incentivize the increased use of cleaner fuels.

Thank you for your consideration. Please do not hesitate to contact us should you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Eileen W. Tutt".

Eileen Wenger Tutt, Executive Director
California Electric Transportation Coalition