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From: David L. Modisette
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Re: Comments on the Draft Climate Action Team Report to the Governor and the Legislature, dated December 8, 2005.

The California Electric Transportation Coalition (CalETC), a non-profit business association of California companies, is pleased to provide these comments on the Draft Climate Action Team Report to the Governor and the Legislature, dated December 8, 2005.

The Climate Action Team, and its staff, are to be commended for the work you and they have done in such a short timeframe. The majority of our comments below are to describe and illustrate that there are significant additional, cost-effective, climate change emissions reductions that are available through strategies involving electric transportation and goods movement technologies that are already underway and/or available for implementation in the near-future. We request that the Team review and consider these strategies, and our other comments, and incorporate them into the next version of the Report.

A non-profit association promoting cleaner, healthier air through the development and use of zero-emission electric vehicles, hybrid electric vehicles, electric mass transit buses and rail.

1. **Truck Parking Space Electrification not included.** Under the "Emission Reduction Strategies Underway in California, Table 5-1" (pages 46-51), there is listed and described "Diesel Anti-Idling". Although the description

on page 48 only cites the July, 2004 ARB rule adoption covering non-sleeper cab trucks, we understand from staff that this also includes the November, 2005 ARB rule adoption covering the sleeper-cab trucks. However, ARB staff analysis and assumptions on the adopted sleeper-cab rule did not include any existing or future truck parking space electrification (TPSE). ARB staff assumed 100% compliance with this rule using diesel APUs. Truck parking space electrification, both existing installations and future, provide significant additional reductions of CO2 (and PM, criteria pollutants, and petroleum) more than that provided by diesel APUs and the adopted rules. There are four separate aspects to this:

A. **Existing Truck Parking Space Electrification Facilities.** There are more than 400 existing electrified truck parking spaces in California, which are providing CO2 reductions not accounted for in the Draft Report.

B. **Existing Incentives for Current and Future Truck Parking Space Electrification Facilities.** Through the Carl Moyer Incentive Program (with a 10-year funding source) administered by the ARB and the Air Districts, financial incentives are offered and available for truck parking space electrification. However, the Draft Report does not either project future TPSE installations from these incentives, or indicate what additional emissions might be "needed" or sought or available from future TPSE installations.

C. **Additional, New Programs for TPSE are Being Proposed.** The California Energy Commission has recommended additional, new, programs to encourage and further develop TPSE facilities in California in their adopted 2005 Integrated Energy Policy Report. Here are their recommendations[1]:

- The state should develop programs to: 1) reduce diesel engine idling including truck parking space electrification (at privately owned facilities and those owned by the California Department of Transportation), marine port electrification, airport electrification, and electric standby for truck and container refrigeration units; and 2) reduce diesel and gasoline use in non-road vehicles including forklifts and other industrial vehicles. The state should closely coordinate these activities with other load management, energy efficiency, and greenhouse gas reduction programs.
- The state should establish a low-interest loan program, funded through the California Pollution Control Authority, the California Alternative Energy Source and Advanced Transportation Funding Authority, or other sources and administered by the Energy Commission, to develop projects that reduce petroleum use and increase transportation fuel diversity.

California Legislators are considering introduction of a legislation to implement these recommendations. One proposal under consideration is the establishment of a low-interest loan program to encourage and develop additional truck parking space electrification facilities.

[1] California Energy Commission, 2005 Integrated Energy Policy Report, November, 2005, page 26.

The Draft Report does not acknowledge these recommendations, nor does it either say that additional climate change emissions reductions would be possible from additional TPSE, or call for such reductions.

D. **Additional Emissions Reductions Available from Truck Parking Space Electrification.** The use of truck parking space electrification technologies is estimated to provide additional, surplus emissions and petroleum reduction greater than the CARB regulations, of 804 tons per day of carbon dioxide, 5.5 tons per day of nitrogen oxides and reactive organic gases, 2.3 tons per day of carbon monoxide, and more than 20 million gallons of diesel fuel annually, assuming that 75 percent of trucks use electrification technologies rather than diesel auxiliary power units[2].

We urge the Climate Action Team and staff to incorporate truck parking space electrification into the next version of the Report to the Governor and the Legislature.

2. **Additional Emissions Reduction Strategies <u>Underway</u> in California from Electric Goods Movement Technologies.** CalETC also wants to note for the Climate Action Team and staff that over the past several years California has enacted: (1) regulatory requirements which include compliance options for electric transportation and goods movement technologies; and (2) incentive programs which are encouraging electric transportation and goods movement technologies (example: Carl Moyer Program). These technologies include: electric standby for truck refrigeration units; forklifts and other lift trucks; airport ground support equipment; tow tractors and industrial tugs; sweepers, scrubbers, burnishers; burden and personnel carriers; and turf trucks. These regulatory and incentive drivers are *in addition* to the natural market share which some of these electric technologies enjoy. So the additional emissions reductions which accrue over and above those from natural market share should be counted in the category of Emissions Reduction Strategies Underway in California.

The independent consulting firm of TIAX, LLC estimated these additional CO2 reductions (and criteria pollutant and petroleum reductions) from these additional "Expected" technologies over and above natural market share, in a recent report, entitled, "TIAX Update to 2002 ADL (Arthur D. Little) LEV Electric Vehicle market Assessment, Draft Final Letter Memo", October 25, 2005. A copy of this Report is attached. See Table 5A for the "Expected" Displacement of Emissions and Petroleum.

Although the emissions reduction from these electric goods movement technologies from strategies underway in California is not huge, it is significant, and CalETC believes it should be added to the "Strategies Underway" table, possibly under an aggregated title such as "Electric Goods Movement Technologies".

3. **Strategies Needed: Transportation Refrigeration Units.** The Draft Report proposes emission reductions from the use of Electric Standby for Transportation Refrigeration Units (TRUs)

[2] Dunlap, Lauren, Discussion Paper on ARB's Proposed Regulation to Restrict Sleeper Truck Idling, October 13, 2005, page 22.

(page 56). The use of electric standby allows the TRU to be run off of electricity when the refrigerated truck trailer is at a loading dock, and/or when parked to await loading or unloading. TRUs may also be plugged to electric power at truck stops which have electrification. Electric standby requires both electric infrastructure at the loading docks (or waiting area), and equipment on the TRU which allows it to be powered with electricity, rather than diesel fuel, when available.

The Draft Report indicates that all new TRUs could be required to be equipped with electric standby, and that new cold storage facilities could be required to install electric infrastructure to support electric standby TRUs.

It is not clear to us how the emission reduction estimates in the Draft Report were arrived at. The Report indicates a reduction of 0.14 MMT in 2020 assuming 50% electrification and TRU operation at a facility of about 30%. See the estimates in the previously referenced TIAX study (Table 6A – Achievable Displacement of Emissions and Petroleum, and description of the calculation methodology on page 13) of 0.28 MMT. It may be that staff used their assumption of "50% electrification" to reduce the TIAX estimate by 50% from 0.28 to 0.14 MMT. However, the TIAX number of 0.28 assumes 75% penetration, so it would be incorrect to reduce this number by 50% to achieve the "50% electrification" assumption. Additionally we do not believe that a 75% penetration assumption in 2020 is unrealistic given the assumption in the DRAFT report to require installation of both infrastructure and electric standby TRUs.

Additionally we point out that the addition of electric standby to both existing and new TRUs is eligible for a grant equal to the incremental cost under the Carl Moyer Program. Air Districts may fund the infrastructure necessary to operate electric standby TRUs. What continues to be a barrier to the installation of electric standby TRUs, and the infrastructure they need, is the initial cost to the owner. The initial cost hurdle could be overcome with the establishment of a low-interest loan program similar to that proposed for truck parking space electrification. The initial capital for the low-interest loan program could be part of the proposed Infrastructure Bond, or possibly done through revenue bonds. Since this would be a loan program, there is no cost to the taxpayers and no additional debt incurred, because all funds are repaid back to the State with interest.

We recommend to the Climate Action Team and staff that you make the this section on TRU Strategies Needed more certain, and more friendly to business and industry, by adding the recommendation that a low-interest loan program be established for electric standby TRUs and truck parking space electrification, including infrastructure and on-truck modifications.

4. **Strategies Needed: Off-Road Electrification Technologies.** The Draft Report proposes emission reductions from the use of Off-Road Electrification Technologies (page 56). It would be helpful for this section of the Report to define what technologies are included in this title. Presumably this definition includes the broad range of off-road or non-road goods movement and industrial vehicles and equipment, including: forklifts and other lift trucks; electric airport ground support equipment; tow tractors; industrial tugs; electric sweepers, scrubbers, burnishers; turf trucks; and other burden and personnel carriers. The achievable emissions reductions from the use of these technologies in California is quantified in the above-mentioned TIAX report (see Table 6A

on page 8). The TIAX report estimates achievable emissions reductions of climate change gases of 2.5 MMT in 2020. The Draft Climate Action Team Report indicates that the increased use of these technologies would likely be achieved using a combination of regulatory and incentive approaches, and outreach.

We urge the Climate Action Team and its staff to be more specific about what approaches would be used to achieve the reduction goals in this section. We believe that additional outreach combined with existing incentive and regulatory programs will not be enough to achieve these goals. For example, the structure of the existing Carl Moyer program, as it relates to these off-road electric technologies, is such that it provides little incentive to choose the cleaner electric technologies over gasoline or diesel models. If a small business has a gasoline forklift break down, the small business owner goes to a forklift distributor for a replacement. Here is the choice the small business owner has: he can buy a new gasoline forklift and have it delivered that afternoon; or he can buy a new electric forklift which costs $6,000 more than the gasoline version. However, if he wants to use the Carl Moyer program to pay for the additional $6,000 incremental cost (to make the cost of the electric model equal to the cost of the gasoline model) then he can't buy the electric forklift at that time or take it with him. He has to apply to the Moyer program first, and be approved, before he can buy the electric forklift. The Moyer application window may be only once a year, and it may take 6 months for the application to be approved. So if he wants the electric forklift he has to wait 6-12 months, before he can buy it. And even then, the Moyer program is only equalizing the price with the gasoline forklift, not providing any additional financial incentive to encourage the purchase of the electric, even though the electric forklift produces far fewer emissions. In addition the Carl Moyer program will require the owner to track their forklift usage for a period of 5 years, and submit auditable records to the local air quality management district. The auditable records also expose the owner to possible fines if they are found to be using the forklift less than they planned in their Moyer application. So in reality there is little or no practical incentive provided for most non-road electric technologies under Moyer; and it creates increased business risk, disincentives and new barriers for equipment owners and distributors alike. Simply adding more "outreach" to encourage more electric technologies under Moyer will not solve the fundamental problem.

We recommend that the Climate Action Team strengthen the section on Off-Road Electrification Strategies by recommending in its Report that for these technologies the Moyer program be streamlined in a way that incentives can be provided at the point of purchase (like automobile "instant rebates"). The ARB and some participating air districts may explore something similar to this in "voucher" pilot programs in 2006. Although we support these voucher pilot projects, we believe that this structural problem within Moyer needs to be fixed quickly, if state agencies want to achieve the emissions benefits that non-road electric technologies can provide.

We believe that additional incentives, beyond the Moyer Program, will be necessary to achieve the levels of emission reduction in the TIAX report. One such incentive has already been proposed for other electric technologies: a low-interest loan program to reduce the high initial cost. The loan would be completely repaid by the applicant over time, with interest. Another idea might be to provide an additional financial incentive, on top of the Moyer "incremental cost" grant, for the additional carbon-reduction benefits of electric technologies. Another idea might be for utility

companies to include in their customer energy audits for commercial and industrial facilities an evaluation of shifting over to electric non-road technologies, including costs and benefits. We urge the Climate Action Team to consider recommending one or more of these incentives in order to achieve the emissions reductions you seek from these technologies.

We believe that there are many possible approaches to achieve the desired market penetration, and related emissions benefits as described in the TIAX Report, from these non-road electric goods movement and industrial vehicles and equipment. We would be pleased to work the Team and staff to develop some of these further. But we would urge the Climate Action Team to be more specific about what approaches you are recommending in this area.

5. **Strategies Needed: Port Electrification.** The Draft Report proposes emission reductions from the use of Port Electrification (pages 56 and 57). The Report indicates that ARB would require phase-in of vessel modifications and infrastructure to support expanded use of shore power. The Report proposes a goal of 5% of ship visits using shore power by 2010, and 25% of ship visits using shore power by 2020. The estimated CO2 reduction from these goals is 0.016 MMT and 0.18 MMT respectively. The TIAX report also estimated achievable CO2 reductions from port electrification (see Table 6A on page 8) using a somewhat different methodology than that described in the Team Draft Report. The CO2 reduction estimates in the Draft Report are on the low side of estimates in the TIAX report, so we would urge the authors to review the TIAX methodology and assumptions. We would be happy to make the TIAX authors available for discussion.

We also note that the TIAX estimates were prepared before the Governor's announcement of his Strategic Growth Plan and Infrastructure Bonds, which contain funding for emissions mitigation projects at ports ($2 billion), including port electrification. We also note that port electrification is included in the California Goods Movement Action Plan. In light of these developments, we recommend that the Climate Action Team and staff review the goals in the Draft Report and consider whether these should be modified.

We also recommend that the Team investigate other related strategies for emissions reductions from port cargo handling equipment, electric gantry cranes, and electric rail.

6. **Investor-Owned Utility Electricity Sector Carbon Policy (page 60).** One possible additional opportunity related to this area is that there is interest at the CEC and CPUC in re-evaluating (with the ARB, air districts, and other stakeholders) utility activities regarding electric and natural gas vehicles. In the recently adopted Integrated Energy Policy Report, one of the CEC's recommendations is:

The state should open a dialog among the Energy Commission, the CPUC, the ARB, local air quality management districts, utilities, and other stakeholders to investigate how investor-owned utilities can best develop the equipment and infrastructure to fuel electric and natural gas vehicles as required by Public Utilities

Code Sections 740.3, 740.8, and 451.

Similar language is also among the recommendations in the Energy Action Plan II document, which was jointly adopted by the CPUC and the CEC. This re-evaluation and dialogue among the stakeholders, many of whom are on the Climate Action Team, may lead to formulation of creative new concepts to reduce climate change emissions. Examples of such possible concepts are: (a) voluntary climate protection tariff, as recently proposed by PG&E; (b) special rates, such as the recent CPUC adopted rates for electric agricultural pumps which replace old diesel pumps; (c) expanding energy efficiency audits for commercial and industrial customers to include an evaluation of carbon reduction and other impacts from shifting some equipment from petroleum fuels to electricity; (d) providing information and/or technical assistance to utility customers that want to reduce their climate change emissions (following the audit in c).

7. **Alternative Fuels; Non-Petroleum Fuels (page 70).** One of the most promising new on-road alternative fuel technologies, is the plug-in hybrid, which according to the ARB staff can reduce climate change emissions by 62% or more in comparison to conventional gasoline vehicles.[3] The TIAX Report projects very large "achievable" reduction of climate change gases from plug-in hybrids: 1.2 – 1.57 MMT in 2010, and 10 – 12.99 MMT in 2020 (plus large reductions in NOx, ROG, PM, and petroleum). The CEC, in its' recently adopted Integrated Energy Policy Report, evaluated plug-in hybrids with a 20 mile all-electric range, and found that they had significant net positive benefits. Although major automakers are developing prototype plug-in hybrid vehicles, and some consumers are converting their Prius hybrid vehicles to plug-in operation, there are no commercially available plug-in hybrids today. Given the very large benefits of plug-in hybrids, is there anything the State of California can do to encourage the commercial development of this technology? The CEC recommended a good first step in the IEPR:

The state should establish a combined state/industry working group to examine the markets for development and commercialization of plug-in hybrid-electric vehicles. The state should develop partnerships with original equipment manufacturers to demonstrate plug-in hybrid-electric vehicles, assess consumer demand for these options, and support early incentives to reduce initial consumer cost.

We recommend that the Climate Action Team endorse this recommendation, and the agencies represented on the Team should be active members of the working group. We also recommend that the Team's Report highlight PHEVs and other promising near-term technologies which have the potential to make significant additional reduction in climate change emissions.

8. **Public Goods Charge for Transportation (page 93).** California has had a public goods charge on electricity and natural gas for years. But there is no public goods charge on transportation fuels (gasoline and diesel), even though transportation is by far the largest source of emissions in

[3] California Environmental Protection Agency, Air Resources Board, Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider Adoption of Regulations to Control Greenhouse Gas Emissions from Motor Vehicles, August 6, 2004, page 78.

the State. We support the recommendation of the Climate Action Team for a public goods charge on transportation fuels.

9. **Offset Program (page 95).** We support the development of an offset program similar to that established by the Climate Trust in Oregon and Washington.

The California Electric Transportation Coalition appreciates this opportunity to provide these comments on the Draft Report of the California Climate Action Team. We would be happy to provide any additional information or assistance on these issues. We look forward to working with you on these important matters.