March 4, 2008

Ms. Mary Nichols, Chair and Board Members
Mr. James Goldstene, Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: CARB Zero Emission Vehicle Regulatory Revision

Dear Ms. Nichols, Mr. Goldstene and Board Members:

We are writing on behalf of the American Lung Association of California, The Center For Energy Efficiency and Renewable Technology, Energy Independence Now, and the Coalition For Clean Air to offer our reactions to the CARB staff proposal to revise the Zero Emission Vehicle Program. The current proposal from CARB would continue the historical trend of amendments to relax the requirements on auto companies and would result in a greater than 90 percent reduction in ZEV technology requirements compared to the original ZEV mandate of 1990. We are greatly concerned that this is going in the wrong direction. California suffers from the worst air pollution in the country and global warming is expected to exacerbate our air pollution problems, especially in the most polluted areas. Global warming also will make it even harder to achieve state and federal health-based air quality targets. At the same time, the state is in the midst of a massive effort to reduce carbon from vehicles, fuels and other sectors to meet aggressive 2020 and 2050 greenhouse gas (GHG) reduction targets.

This is a critical time for California to focus on strengthening the ZEV program, not weakening it, as is the current direction with the staff proposal. It is especially important, given the EPA's denial of the California Clean Cars (AB 1493 – Pavley) waiver and the critical need for additional pollution emission reductions to meet SIP goals. We need to utilize every possible tool, including the ZEV program, to strengthen criteria pollution and greenhouse gas emission reduction efforts. And we need to do this now, not three or five years from now.

Following are the key steps that CARB should take to strengthen the ZEV program:

- **<u>Continue Sustained Investment In Innovation and Deployment Without Loss Of Benefits</u>**

  The ZEV requirement, including the ramp-up of fuel cell numbers incorporated in the existing regulation, have driven significant investments in technology advancement for both fuel cell and advanced battery technologies. These investments are resulting in regular and significant advances. Despite early OEM skepticism, plug-in hybrid technology is clearly on a fundamental growth trajectory which could revolutionize passenger car transport.

  At the very time we're finally realizing benefits from technology investment, the current staff proposal dramatically ratchets down this level of investment through cutting the "gold" category numbers by 90 percent, with only a modest increase in plug-in hybrids proposed as compensation. This dramatic reduction in numbers represents a substantial loss of benefits in terms of technology investment, innovation and kWh electric drive train capacity. The staff report presents the change in terms of benefit to automakers; it estimates that existing program requirements would cost auto manufacturers more than $6 billion over the course of the program. We see the change as a setback not only for the program but for advanced vehicle technology development. The board should consider what level of advancement and deployment of electric drive technologies could be achieved through investment of $6 billion over this same time period. We estimate that over 1 million plug-in hybrid electric vehicles could be deployed with this level of investment, or over 13 times the number proposed in the staff report.

  The board should ensure the ZEV program continues to drive advancement in batteries and fuel cells to the fullest extent, without a loss of benefits compared to the current program. The benefits that must be made up for any loss of gold vehicles include benefits of technology advancement and deployment as well as air quality and greenhouse gas reduction benefits.

- **<u>Restructure ZEV Program To Integrate Goals Of Reducing Greenhouse Gases and Criteria Pollutants</u>**

  The ZEV program, as well as other key fuels and vehicle technology programs such as the Low Carbon Fuel Standard and the LEV Program must be oriented toward achieving both greenhouse gas and criteria pollutant reductions to improve air quality and public health. The key criteria for the ZEV program should be the level of technology advancement and deployment needed to achieve air quality and public health goals as soon as possible and no later than 2024 as well as to achieve 2050 greenhouse gas reduction targets.

- **Simplify ZEV Program**
  We appreciate staff's efforts to simplify the ZEV program, and we concur simplification is greatly needed. Despite staff's good intentions, we believe the proposed revisions still are tremendously complex. In order to achieve its full technology development and advanced ZEV commercialization benefits, the regulation needs to undergo a fundamental change to be more straightforward and simple to the auto companies, to electric drive technology developers and investors and to the public.

- **Set Overarching Technology Advancement Goal: Fleet-wide Electric Drive Penetration**
  The core of the current ZEV regulatory program is the requirement to produce a limited number of ZEVs, either battery electric or hydrogen fuel cell vehicles. This electric-only miles metric has produced significant progress in electric drive technology over the years, but it has resulted in a "niche" program rather than spurring innovation across the fleet. Given the tremendous need for reduced greenhouse gas emissions and improved public health, CARB should now combine the core ZEV requirement with a much broader approach that would apply existing and proven electric drive technology across the fleet. CARB's approach should be focused on substituting kilowatt-hours for gasoline miles through electrifying the drive train components in every new car. This approach provides opportunities for batteries and fuel cells, since both depend on electric drive technology.

  We recommend the over-arching goal should be reducing greenhouse gas from passenger vehicles through integration of electric drive technology in 100 percent of the new passenger car fleet by the end of the next decade. This goal could be achieved by incorporating existing hybrid technologies across all new vehicles. We believe that achieving this goal is vitally important as an interim milestone toward achieving the transportation emission reductions needed to meet 2050 GHG reduction targets. Also, this goal is completely within reach of existing technology, assuming sufficient design optimization and retooling time.

- **Maintain Strong Pure ZEV Floor To Spur Technology Advancement**
  CARB should maintain a strong core program dedicated to development and deployment of pure ZEV technologies, while pursuing integration of electric drive technologies into the broader fleet. The current staff proposal to drop the pure ZEV number from 25,000 to 2,500 is a tremendous loss in terms of technology advancement and commitment to cleaner air. The board should develop a plan that includes a solid ramp to at least achieve the original 10% pure ZEV requirement by 2020. These numbers can be achieved, especially given the rapid recent advancement of battery technology and the staff's proposal to allow more equal treatment of battery electric vehicles.

- **Link ZEV Program and Fueling Infrastructure Requirements**

  The ZEV program does not currently include a mechanism to ensure availability of fueling infrastructure sufficient to support increasing numbers of fuel cell vehicles for research, development, deployment, and ultimately commercialization. To accomplish this, the Board should establish requirements for ZEV fueling infrastructure within the Low Carbon Fuel Standard or direct staff to revise the Clean Fuels Outlet regulation to require availability of fuel for zero emission vehicles. The current 20,000 vehicle trigger under the Clean Fuels Outlet program does not address the near-term need to deploy infrastructure in tandem with vehicles, and while government incentives for such infrastructure are useful, they are not sufficient to ensure availability of fuel for vehicles deployed under the ZEV program. Funding for hydrogen fueling infrastructure development and deployment should also be made available to the California Hydrogen Highway Network initiative through the AB 118 (Nunez) Alternative and Renewable Fuel Vehicle and Technology program.

- **Require Transparency in ZEV Information**

  CARB should develop and incorporate into the ZEV program a clear policy on transparency of information to ensure the public has full access to information needed to monitor and confirm auto company compliance with the regulation. The policy should ensure that any documents provided to the California Air Resources Board to demonstrate compliance with the ZEV program, including automobile sales, emission information, or credit trading data, will be publicly available. In addition, any documents created or action taken by board to confirm compliance or award credits must also be publicly available.

We urge the board to substantially revise the current staff proposal and consider it as part of a larger package with an aggressive vision for change in the vehicle fleet. CARB should adopt a two-part revision to the ZEV program that would include the following elements:

1) **By March 27, 2008 the CARB Board should**:
   - Strengthen the existing staff proposal by substantially increasing requirements for pure gold vehicles and silver-plus vehicles beginning in 2012 and recapturing the $6 billion investment that was planned for fuel cell vehicles. The staff proposal should incorporate a solid ramp to achieve at least 10 % pure ZEV vehicles by 2020 starting with a much stronger requirement in Phase III.
   - Set a new, visionary goal for the ZEV program to require an increasing level of integration of electric drive technology in 100 percent of new vehicles by 2020.
   - Investigate the potential for near-term use of plug-in conversion battery modules and consider inclusion of incentives for state certified and standardized

plug-in conversions to achieve additional emission and greenhouse gas reduction benefits from the large hybrid fleet already on the ground.

- Include a strong policy on transparency of ZEV compliance and credit trading information to the public.
- Require staff to come back within 2 years with a re-structuring of the ZEV program that includes milestones to reach the goal of at least 10% pure ZEV vehicles and 100 percent integration of electric drive technology in the new vehicle fleet by 2020. In addition, the board must develop a plan for fueling infrastructure development to assist with this goal.

2) **By January, 2010, the CARB Board should**:

Adopt a revision of the ZEV program that fully integrates air quality and greenhouse gas reduction goals and requires an increasing level of pure ZEV vehicles and electric drive technology across the new vehicle fleet to reach the interim goal of 10% of new vehicles produced that are pure ZEVs and 100 percent of new vehicles with electric drive technology by 2020.

We appreciate staff's hard work on this very important program and for your consideration of these comments. We would be happy to discuss any of these points in greater detail with the Board and staff.

Sincerely,

Bonnie Holmes-Gen
American Lung Association of California

V. John White
Center For Energy Efficiency And Renewable Technology

Tim Carmichael
Coalition For Clean Air

Daniel Emmett
Energy Independence Now