

Discussion Questions

**Public Workshop:
2050 Greenhouse Gas Emission Analysis – Light Duty Vehicle Sector
October 28, 2009
1:30 – 5:00 pm
California Air Resources Board
Byron Sher Auditorium
1001 I Street, Sacramento, CA 95812**

The following discussion questions have been prepared to provide a framework for key discussion topics during the 2050 greenhouse gas (GHG) public workshop. The presentation for the workshop will be posted on the zero emission vehicle (ZEV) program website Monday, October 26, 2009. Feedback prior to the workshop is welcome, and can be directed to Joshua Cunningham at jcunning@arb.ca.gov.

Motivating policy questions for modeling exercise

To support the ZEV Regulation development, the following policy questions address the goal of achieving an 80% reduction in GHG emissions below 1990 levels by 2050 in the light-duty vehicle (LDV) sub-sector.

- How many ZEVs (fuel cell vehicles and battery electric vehicles), as well as plug-in hybrid electric vehicles, are needed in the on-road fleet between 2020 & 2050?
- What annual sales rates are necessary for these technologies between 2015 and 2025 to initiate the fleet volume growth?

Workshop discussion questions

1. A portfolio of vehicle and fuel solutions will be needed to achieve the 2050 goals. Considering all three vehicle alternatives (fuel cell vehicles, battery electric vehicles and plug-in hybrid electric vehicles) have varying challenges (cost, durability, range, infrastructure access), **which alternatives are more appropriate for specific market segments** (e.g. urban vs. rural ownership, compact vehicle vs. light-truck, etc)?
2. ARB's modeling scenarios show aggressive advanced vehicle sales will be needed by 2025. Is long-term market success for advanced vehicles more feasible if aggressive sales begin by 2015 (to provide more time for markets to grow) or by 2020 (to allow technology innovation to progress further)?
3. What is the appropriate mix of long-term production feedstocks for electricity and hydrogen that result in a very low average carbon intensity?
4. Are there certain resource supply restrictions that are particularly important to evaluate? For example, long-term biomass supply may be limited for use in the LDV sub-segment given demand in other transportation sub-sectors (aviation, heavy-duty trucks, marine, etc).