

California Air Resources Board

**Greenhouse Gas Quantification Methodology for the
California Air Resources Board Low Carbon Transportation
Advanced Technology Freight Demonstrations:
Zero-Emission Drayage Truck Demonstration Project**

**Greenhouse Gas Reduction Fund
Fiscal Year 2014-15**

A. Introduction

The Air Resources Board (ARB) is required to develop quantification methods for agencies receiving Greenhouse Gas Reduction Fund (GGRF) appropriations per SB 862 (Senate Budget and Fiscal Review Committee, Chapter 36, statutes of 2014).

B. Quantification Methodology

ARB developed the Zero-Emission Drayage Truck Demonstration Project to provide grants to implement advanced technology freight demonstrations. Projects funded under this solicitation will demonstrate full zero-emission drayage trucks and drayage trucks that offer zero-emission miles (near zero-emission) by employing on-board range extending internal combustion engines or other technologies. The project(s) will reduce greenhouse gas (GHG) emissions and provide economic, environmental, and public health co-benefits to disadvantaged communities while demonstrating the practicality and economic viability of widespread adoption of advanced zero-emission drayage trucks.

ARB developed a competitive solicitation for the Zero-Emission Drayage Truck Demonstration Project which includes the quantification methodology for applicants to use in estimating GHG emission reductions of proposed projects funded with fiscal year (FY) 2014-15 GGRF monies. The methodology compares GHG emission reductions between proposed projects to aid in selecting projects for funding. The quantification methodology is expected to apply to most advanced drayage truck technologies including battery-electric, fuel cell and range extending battery-dominant drayage trucks.

The quantification methodology provides an initial estimate of the GHG emission reductions by comparing the GHG emissions associated with the base case truck and the advanced technology truck. The difference between the GHG emissions from the base case and the advanced technology case provides the estimated GHG emission reductions that are associated with the advanced vehicle demonstration.

The Zero-Emission Drayage Truck Project quantification method is available here:

<http://www.arb.ca.gov/msprog/aqip/solicitations/msc1516appd.pdf>

C. Next Steps

ARB will continue to evaluate and update the GHG emission reductions quantification methodologies as necessary for future FY GGRF appropriations. Quantification methodologies are posted on ARB's auction proceeds webpage at:

<http://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm>