

## **HYBRID AND ZERO-EMISSION TRUCK AND BUS VOUCHER INCENTIVE PROGRAM HYBRID VEHICLE ELIGIBILITY APPLICATION**

This is an application for hybrid vehicle manufacturers to have a hybrid vehicle make/model listed as eligible for the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP). This application must be completed and submitted to ARB, and the vehicle must receive written approval prior to the vehicle being eligible for a voucher.

The hybrid vehicles identified in Appendix A of the HVIP Implementation Manual are eligible for the FY 2011-12 HVIP and will be automatically eligible for the FY 2012-13 HVIP. Other hybrid vehicle make/models must fall into one of the following five categories to apply for HVIP-eligibility. This application is for (check box below that applies):

- A hybrid vehicle which is a physically equivalent version of an existing ARB-certified or HVIP-eligible vehicle (and may have a newer engine and/or vehicle model year). This hybrid vehicle utilizes the same make/model engine, hybrid system, emission control strategies, and other key components as the existing ARB-certified or HVIP-eligible vehicle. (Complete Parts I, II, III, and V only) Please also include copies of ARB Executive Orders for the engine used in the existing HVIP-eligible vehicle and the vehicle requested become HVIP-eligible.
- A hybrid vehicle of greater than 14,000 lbs gross vehicle weight rating (GVWR) which is certified by the California Air Resources Board (ARB). (Complete Parts I, II, III and V only)
- A hybrid vehicle over 14,000 lbs GVWR which falls in none of the categories identified above (Complete all parts of this application)
- A hybrid vehicle between 8,501 and 14,000 lbs GVWR which is ARB-certified to be sold in California. (Complete Parts I, II, III, and V only)

This application must be completed by the original vehicle manufacturer or its legal representative. An application must be submitted for each combination of vehicle engine and model years (i.e. a 2013 MY vehicle with a 2012 MY engine and one with a 2013 MY engine require separate applications) and for each distinct GVW range identified in Table 2 of the Implementation Manual (i.e. separate applications are required for a 14,001 to 19,400 lbs GVWR vehicle and a 19,501 to 26,000 lbs GVWR vehicle). ARB reserves the right to request additional information or clarification of responses provided in this application. ARB may require additional information from the vehicle manufacturer or Final Stage Vehicle Manufacturer before listing a vehicle as eligible for funding.

**Part I: Original Manufacturer Information**

1. Company Name/Organization Name/Individual Name:		
2. Contact Name and Title:		
3. Business Mailing Address and Contact Information		
Street:		
City:	State:	Zip Code:
Phone: (     )	E-mail:	

**Part II: Vehicle Description**

Please identify the hybrid vehicle and its baseline (non-hybrid) equivalent in Tables B-1 and B-2, respectively. These vehicles must be of the same make, model, drive configuration (4 x 2 or 4 x 4), frontal area, and gross vehicle weight and use the same ARB-certified engine.

**Table B-1: Hybrid Vehicle Information**

<b>Vehicle MY</b>	<b>Hybrid Vehicle Description</b> (vehicle type, vehicle model, engine model and MY, hybrid system)	<b>Gross Vehicle Weight Range</b>

**Table B-2: Baseline Vehicle Information**

<b>Vehicle MY</b>	<b>Equivalent Non-Hybrid Vehicle Description</b> (vehicle type, vehicle model, and engine model and MY)	<b>Gross Vehicle Weight Range</b>

What is the typical California pre-tax cost of the hybrid vehicle (identified in Table B-1) with normal dealer profit?

\$ \_\_\_\_\_

What is the typical California pre-tax cost of this equivalent baseline vehicle (identified in Table B-2) with normal dealer profit?

\$ \_\_\_\_\_

### Part III: Self-Certification of Hybrid Vehicle and Engine Parameters

Please check the box next to each statement if the statement is correct. Do not check the box if the statement is not correct.

- This vehicle utilizes an ARB-certified engine.  
Engine Model Year: \_\_\_\_\_ Engine Family: \_\_\_\_\_  
ARB Executive Order Number: \_\_\_\_\_
- Engine type (check one):  
 Light-heavy duty diesel engine  
 Medium-heavy duty diesel engine  
 Heavy-heavy duty diesel engine  
 Other (please describe): \_\_\_\_\_
- The vehicle draws propulsion energy from both of the following on-vehicle sources of stored energy: 1) consumable fuel, and 2) a rechargeable energy storage system.
- The maximum power available from the rechargeable energy storage system during a standard 10 second pulse power or equivalent test is at least 15 percent of the vehicle's total traction power.
- The hybrid vehicle's City Fuel Economy, determined in accordance with the requirements of Internal Revenue Bulletin 2007-23 ([www.irs.gov/irb/2007-23\\_IRB/ar08.html](http://www.irs.gov/irb/2007-23_IRB/ar08.html)), is at least thirty percent greater than that of the equivalent non-hybrid make/model vehicle as identified in Table B-2. (Not required for ARB-certified vehicles).
- The vehicle complies with applicable air quality provisions of California and federal law.
- The vehicle complies with motor vehicle safety provisions of 49 USC Sections 30101 through 30169.
- The vehicle meets the original engine manufacturer's build requirements.
- No modifications have been made to the engine hardware or after-treatment device(s).
- No modifications have been made to the engine's original software calibrations.
- The hybrid vehicle operation does not change the engine's certified regeneration cycles/events for emission control devices such as filters.
- The emission control sensors or signals to or from the engine control module haven't been modified.

There is at least one service provider for the hybrid vehicle in California. Please provide name and city of primary service provider:

\_\_\_\_\_

This vehicle's electric drive or software calibrations shall be installed or modified at a Truck Equipment or Final Stage Manufacturer (TEM). If answer is "yes", please indicate:

Truck Equipment Manufacturer Name:		
Contact Name and Title:		
Street Address:	State:	Zip Code:
Phone: (    )	E-mail:	

**Part IV: Application Attachments to be Provided by Original Vehicle Manufacturer**

- If any of the eight statements in Part III are not true and correct (i.e. if any of the boxes above are not checked), please attach a narrative explaining why.
- For hybrid vehicles over 14,000 GVWR, provide an exhaust temperature profile as described in Part IVa (below). Only vehicles for which the hybrid platform, engine, and aftertreatment system continue to function as required will be approved.
- For plug-in hybrid vehicles only, provide proof of compliance with minimum ten mile EAER requirements identified in Section 2.3 of the HVIP Implementation Manual.
- Briefly describe what information is provided to hybrid vehicle dealers/purchasers regarding proper disposal of the hybrid vehicle battery and how this information is conveyed.

**Part IVa: Minimum Requirements for Exhaust Temperature Profile Submitted with the Vehicle Eligibility Application for Original Hybrid Vehicle Manufacturers**

Vehicle manufacturers must provide ARB with exhaust temperature profiles for the hybrid vehicle and its non-hybrid (baseline) counterpart identified in Tables B-1 and B-2 of this application. This information is needed to ensure the hybrid system is compatible with continued effective functioning of the vehicle exhaust aftertreatment system. The hybrid and baseline vehicles must be of the same make, model, drive configuration (4 x 2 or 4 x 4), frontal area, and gross vehicle weight and use the same ARB-certified engine. The gross vehicle weight of the vehicle profiled must be within ten percent of the middle of the GVWR range as identified on the HVIP application. For example, an HVIP application for a vehicle between 14,001 to 19,500 GVWR would include a temperature profile for the vehicle while operating at 15,075 to 18,425 gross vehicle weight.

Both the hybrid and corresponding non-hybrid vehicle must be tested concurrently, with one vehicle following the other over the course of the selected test/driving cycle. The temperature profile must be collected as the vehicle operates under typical real world

conditions for a minimum of one hour and must include at least one cold start. The vehicle should not operate at excessive speed or engine load unless typical of the vehicle's intended vocation, and should include at least twenty minutes of uninterrupted idle mode if the vehicle is equipped with power take-off (PTO). The applicant must provide a narrative describing and justifying the vehicle routine/route, load factor, and operating conditions used. A single temperature profile may be provided for multiple hybrid vehicle types with prior written ARB approval if the vehicles use the same chassis and power train configuration and typically operate similar drive cycles. ARB reserves the right to reject an application if the temperature profile parameters are not reasonable for the intended vehicle vocation.

The following data is to be collected at least every five seconds: exhaust temperature, engine speed, rpm, vehicle speed, throttle position or engine load, and time. The temperature monitors shall be placed at a distance of no greater than 6" ahead of the first catalytic aftertreatment device (diesel oxidation catalyst, diesel particulate filter (DPF) or selective catalytic reduction (SCR) doser) and at a point not more than 6" after the last aftertreatment device (diesel oxidation catalyst, DPF or SCR slip catalyst). Ambient temperature shall be provided for the beginning and end of the test and must not fall below 40° degrees or exceed 100° degrees Fahrenheit. The vehicle temperature profiles must be provided in graphic form (cumulative distribution and histogram), with data in tabular format provided to ARB upon request. Data collection and validation methods should be consistent with Society of Automotive Engineers standards.

An ARB-approved temperature profile for a vehicle using a 2010 MY engine can be used for ARB approval of subsequent MY vehicles equipped with a 2010+ MY engine if the newer engine/vehicle combination use the same aftertreatment strategy as the previous engine/vehicle combination.

Deviation from the temperature profile requirements described in this document may only be made with prior written approval from Mr. Joe Calavita, ARB's HVIP Project Liaison (by e-mail at [jcalavit@arb.ca.gov](mailto:jcalavit@arb.ca.gov)). Questions regarding these requirements may also be directed to Mr. Calavita by telephone at (916)445-4586.

**Part V: Applicant Signature**

I hereby certify by penalty of perjury that all information provided in this application and any attachments are true and correct. Submission of false information on this form is punishable under penalty of perjury under the laws of the State of California.

Printed Name of Responsible Party:	Title:
Signature of Responsible Party:	Date: