

Medium- & Heavy-Duty PEV's

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South Coast Air Quality Management District

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Outline

- DOE and CEC co-sponsored medium-duty PHEV program
- Odyne PHEV work truck project
- Overview of other emerging medium- & heavy – duty PEV applications

DOE Program Overview

- Nationwide demonstration and evaluation of 300 medium-duty PHEVs
- Develop a near-production PHEV system for class 4 – 5 vehicles
- Build customer familiarity
- Quantify performance attributes and environmental impact
- Use project results for system development to optimize performance and reduce costs

Vehicle Overview

- Bucket Truck Application
 - Ford F550 Chassis
 - Ford 6.7L Diesel Engine
 - Eaton Plug-in Hybrid Drive System
- Shuttle Bus Application
 - Ford E450 Chassis
 - Ford 5.4L Gasoline Engine
 - Azure Dynamics Plug-in Hybrid Drive System



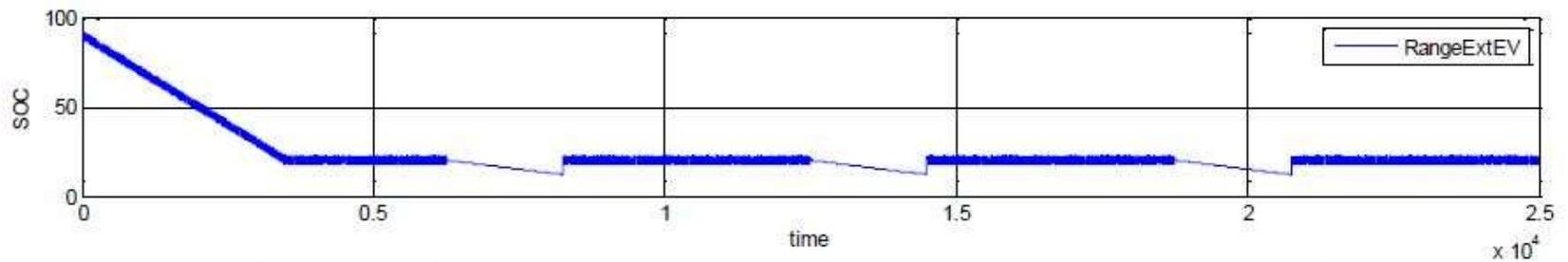
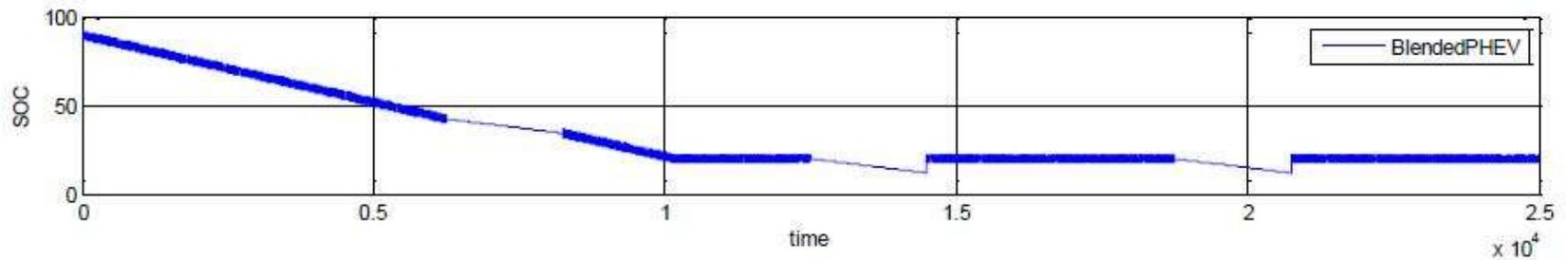
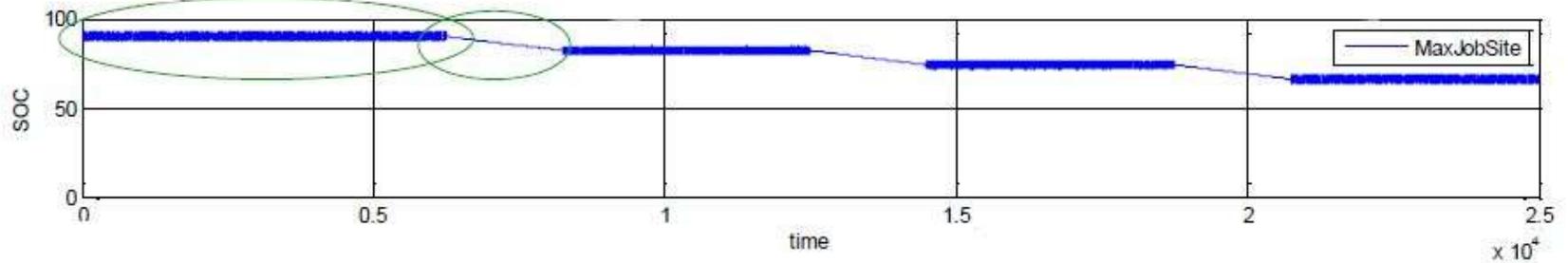
F550 Bucket Truck Specifications

- 65 kW Electric Motor
- 23 kWh Lithium Ion Battery Pack
- Electrified engine accessories
 - A/C compressor
 - Power steering/ power brake hydraulic pump
 - Auxiliary heater
- 7 kW onboard charger
- 5 kW Auxiliary Power Generator



Courtesy of Eaton

Vehicle Calibration



E450 Shuttle Bus Specifications

- 5.4 Liter V8 Engine (Gasoline)
- Typical 12 Seats + 2 Wheel Chair Positions
- Electrified Engine Accessories
- Lithium Ion Battery more than 13 kWh
- Battery Charger (3.3 kWh)
- Charge time is less than 6 hours



Program Timing

Start
Program
(December
2009)

First
Production
Vehicle
Delivery
(Sept 2011)

Fleet
Evaluation
Complete
(Aug 2013)

First
Prototype
Complete
(November
2010)

Last
Vehicle
Delivered
(December
2011)

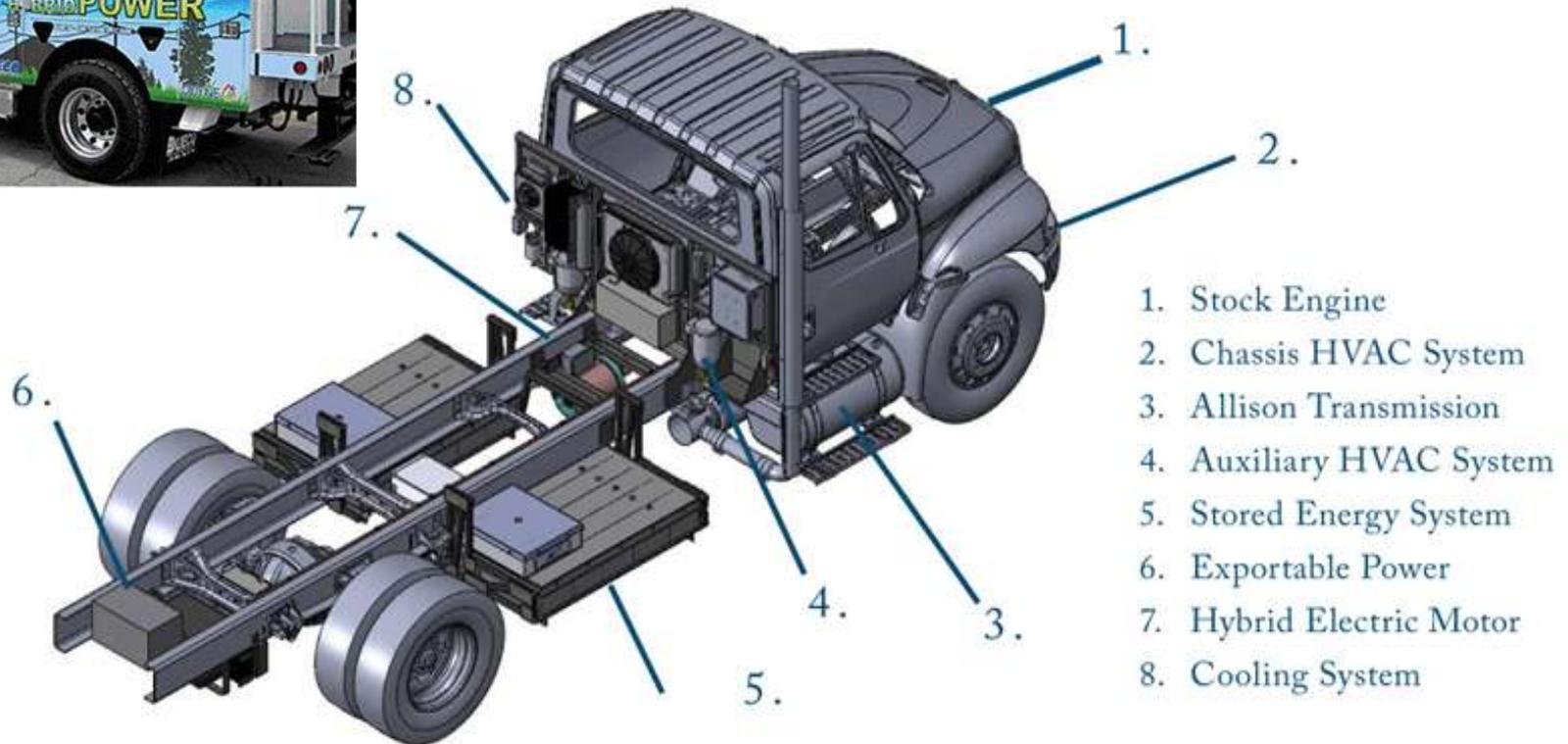


Vehicle Cost to the Fleets

- E450 Shuttle Bus
 - ~\$75,000 + charge station installation
- F550 Bucket Truck
 - ~\$100k + charge station installation

DOE funds will be used to cover the incremental cost of the plug-in hybrid system

Odyne – PHEV Work Truck



1. Stock Engine
2. Chassis HVAC System
3. Allison Transmission
4. Auxiliary HVAC System
5. Stored Energy System
6. Exportable Power
7. Hybrid Electric Motor
8. Cooling System



Contact Info

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