

Hybrid Truck Users Forum Working Group Status and Update



*Advanced Transportation
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HTUF Working Groups Actively Moving Ahead



- **6 Core Working Groups of fleet truck users now operating**
 - Utility/Telecom Work Truck
 - Parcel Delivery
 - Refuse
 - Small Bus
 - Class 8 Over-the-Road and Regional Pickup/Delivery
 - Incentives
- ***Other HTUF activities***
 - *Commercial Construction Equipment Users Forum (CCEUF)*
 - *Plug-In Task Force*
 - *Industry Action Group*
 - *Energy Storage in Medium and Heavy Duty Trucks*



THE FIRST - Utility Bucket Truck Working Group



- Deployment and field evaluation of 24 International/Eaton Class 6/7 bucket trucks completed
- Fuel economy improvements 10% – 55% depending upon duty cycle
- Led to the development and deployment of similar trucks by Peterbilt, Freightliner, Kenworth, and Dueco-Odyne
- Other Class 6/7 vocations being implemented – beverage, box, flatbed, tow, etc.
- Demonstrated the viability of the HTUF concept





Utility/Telecom Work Truck Working Group



- Includes Utility and Telecom fleets
- The group is focusing on Class 4/5 work truck as the best next platform for hybrids
- Selected and agreed on KPPS
- Ranking of KPPs
- Send a letter of interest to industry by Dec 2009



Parcel Delivery Working Group



- Working group selected Hybra-Drive Systems (now **Limo-Reid Technologies**) Team with Gates, Ford, Morgan Olson for hydraulic hybrid parcel delivery vehicles
- System development has delayed vehicle delivery; working towards Spring 2010
- Group is still very interested in pursuing the project
 - Industry competition is a key driver in bringing down cost and getting best value





Refuse Working Group



- Working Group selected **Crane Carrier** to provide vehicles
 - Crane is collaborating with **ISE** to produce electric hybrids (HEVs)
 - Crane is also teaming with **Bosch Rexroth** to produce hydraulic hybrid vehicles (HHVs)
- NYC Dept. of Sanitation is purchasing 3 HEVs, 2 HHVs
 - Validation testing has been completed on HHV and it is currently in limited service
 - HEV validation testing has not been completed
- City of Chicago is considering purchase of 1 HEV





Small Bus Working Group



- Focus on smaller buses (25 feet, Class 5); truck-based cutaway chassis was a promising target
 - Paratransit: demand response; fastest growing sector
 - Shuttle: specialized transit; circulator buses; transfers
 - School bus
- Group developed initial bus characteristics, key performance parameters info for RFP
 - Missouri Dept. of Transportation (MODOT) took the lead in the procurement with other agencies “piggy-backing” for additional vehicle orders
 - Group selected **StarTrans/Azure** to deliver up to 23 vehicles





Class 8 Over-the-Road and Regional Delivery



- Peterbilt/Eaton and Navistar/Arvin Meritor are working with Wal-Mart to develop hybrid concepts
- HTUF WG objective is to allow other fleets to assess these and other technologies
- Initial focus will be on Regional Delivery and Drayage applications
- Establish a vehicle lease process with interested fleets and a leasing agent(s)
- Working group will initially consist of fleets, suppliers, and OEMs
 - Traditional HTUF approach has been end-users only





Incentives Working Group



- Goal: Develop and secure adequate support and incentives to speed medium and heavy-duty hybrid commercialization
- Fleets, suppliers and manufacturers (more than 60 active companies)
- More info in following sessions





Commercial Construction Equipment Users Forum



Working Group Meeting on Oct. 27

- Presentations made on Army specifications of CE, electrification of non-road equip., hydraulic hybrid configurations
- Good discussions on funding opportunities, scoping of potential demos, formation of working groups
- Next steps: initial working groups being formed on duty cycles, hydraulics & fluids, idle reduction; looking for initial demos in 2010





PHET Task Force

- Plug-in Task Force has expanded to include all fleets interested in the plug-in trucks
- Utility – Telecom – Parcel Delivery

Plan

- Lifecycle analysis of existing plug-in truck options
- Data collection and information on performance of some plug-in units
- Discussing platforms that are of interest



HTUF Industry Action Group



- Based on the success of the HTUF vehicle working groups
 - Focused on needs of OEMs and Suppliers
 - Fleets will also play a roll
 - Common action through shared interest and shared costs – with CALSTART as coordinator and fair broker
- Meeting established a definite consensus of interest
 - Need to define the charter and structure for the group
 - Preliminary project could be EPA/CARB certification of hybrid trucks



Energy Storage Workshop

Challenges and needs specific to MD and HD Vehicles

Four Panels

- I – Requirements and characteristics of energy storage for HD vehicles; truck, bus, and military
- II – Manufacturing and production of battery pack for HD vehicles
- III – Funding for LD battery production and how that affects battery development for MD and HD vehicles
- IV – Economics, cost, and market barriers



Energy Storage Workshop

Main Conclusions

- Need for modularity and standardization of packs and standardization of testing
- Improved understanding of future requirements for vehicles to help define battery specifications & requirements
- Increase market support with strong incentives for truck hybridization (similar to FTA incentives for transit)
- Cooperation and collaboration between bus – truck – military vehicle manufacturers to help grow the market for HD battery packs

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