

# HTUF – Not a Conference But a Process for Action



*Advanced Transportation  
Technologies and  
Solutions*



**National Conference 2009**

ATLANTA, GEORGIA  
October 27 - 29

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**HTUF National Conference 2009  
Atlanta, GA  
October 28, 2009**



# HTUF Actions Lead Hybrid Industry Progress

Industry Status

HTUF Activities

No major truck makers involved in commercial hybrids – OEMs skeptical

Military hybrid demos: HMMWV and FMTV

First HTUF Working Group launches (utility)

First HTUF Forums: Allison hosts 1; Enova/EVS 2

Hybrid transit buses grow in market

FedEx hybrids testing

Parcel & beverage working groups launch

Utility WG agrees to common KPPs

SwRI and Stewart & Stevenson host HTUF Forum 3

OEM interest growing – first FedEx trucks delivered

Utility WG issues and awards 24 hybrid truck RFP

Utility hybrid “validation” truck delivered

Eaton and International host HTUF Forum 4

Hydraulic hybrid development expands

FTTS underway

EPA test protocol started

Validation testing of utility hybrid shows significant fuel savings

Refuse, bus working groups launch

Dana hosts HTUF Forum 5

Peterbilt and Freightliner unveil pre-production hybrids

First Class 8 hybrid data

Oshkosh prototype refuse truck

24 utility hybrids deployed with fleets  
Positive results leads to orders for 100 more

ISE & Siemens host HTUF Forum 6 – all truck makers attend

First plug in utility truck

100 utility hybrids in delivery – International begins commercial production

Refuse & parcel groups select suppliers pre-production

Class 8 and incentives working groups

Paccar (Kenworth/Peterbilt) host HTUF Forum 7

Peterbilt, Kenworth, Freightliner and Azure enter low-volume commercial hybrid production

6 working groups active

Construction Equip Forum launches

Bosch Rexroth hosts HTUF Forum 8

1,300+ coml. hybrid trucks ordered or delivered – all truck makers active

Calif. approves hybrid incentives

Hybrid on Hill event

Refuse WG testing HEV and HHV

Bus WG selects supplier

Southern Company (user) hosts HTUF Forum 9

Atlanta Forum 9



Chattanooga Forum 2

Indianapolis Forum 1

San Antonio Forum 3

Kalamazoo Forum 4

Toledo Forum 5

San Diego Forum 6

Seattle Forum 7

So. Bend Forum 8

Atlanta Forum 9

2002

2003

2004

2005

2006

2007

2008

2009

80/120 attendee  
3/5 hybrid ride & drive

172 attendees  
7 hybrid ride & drive

250 attendees  
14 hybrid ride & drive

275 attendees  
13 hybrid ride & drive

330 attendees  
14 hybrid ride & drive

430 attendees  
19 hybrid ride & drive

550 attendees  
36 hybrid ride & drive



# Unified Hybrid Industry in DC

- CALSTART, HTUF and 9 major companies – including all truck makers - outline status, benefits and needs of hybrid trucks
- Joint call for federal assistance for:
  - Purchase incentives
  - Broader fleet demonstrations and
  - Long term R&D investment





# What Have We Accomplished?

- Major truck makers producing hybrids on production line
- Most major platform sizes addressed – though action remaining in light heavy duty, and heavy heavy duty
- Competition growing among suppliers
- Hydraulic hybrids proving their capability; plug-in hybrids entering demonstration
- Incentive voucher – to buy-down half the incremental cost of a hybrid – ready to launch in one state (CA) – need others
- Original federal tax credit expansion proposed as legislation – needs help over finish line

# Where Do We Go Next?

## Hybrids & High Efficiency Trucks

Deployment, Testing & Production Ramp-up

First Commercial Volumes

Technology Enhancement

Alt fuel & Biofuel hybrids  
GTL/BTL Synthetics

### Outcomes:

4+ hybrid system suppliers each at min. 2500 system/year volumes

6 truck/ chassis OEMs active  
Industry volume 20k hybrids/year

40-50% fuel use reductions per vehicle

Increased capabilities of silent watch, power gen

Commercial Vehicles

- Increased Truck Volume Class 8 Hybrid Segment
- Increased Truck Volume Refuse Hybrid Segment
- Increased Truck Volume Shuttle Hybrid Segment
- Increased Truck Volume Delivery Hybrid Segments
- Increased Truck Volume Industrial Hybrid Segment
- Increased Truck Volume Utility 5-7 Hybrid Segment

Military Benefits

- Coml. Industry capabilities support Mil Needs
- Coml. Field Data Support FTTS/TWV Hybrid Decisions
- Grow Experience, Volumes for Non-Tactical Base Hybrids

Testing Evaluation Validation  
Early Production: 500+ Truck Deploy Launches Commercial Phase

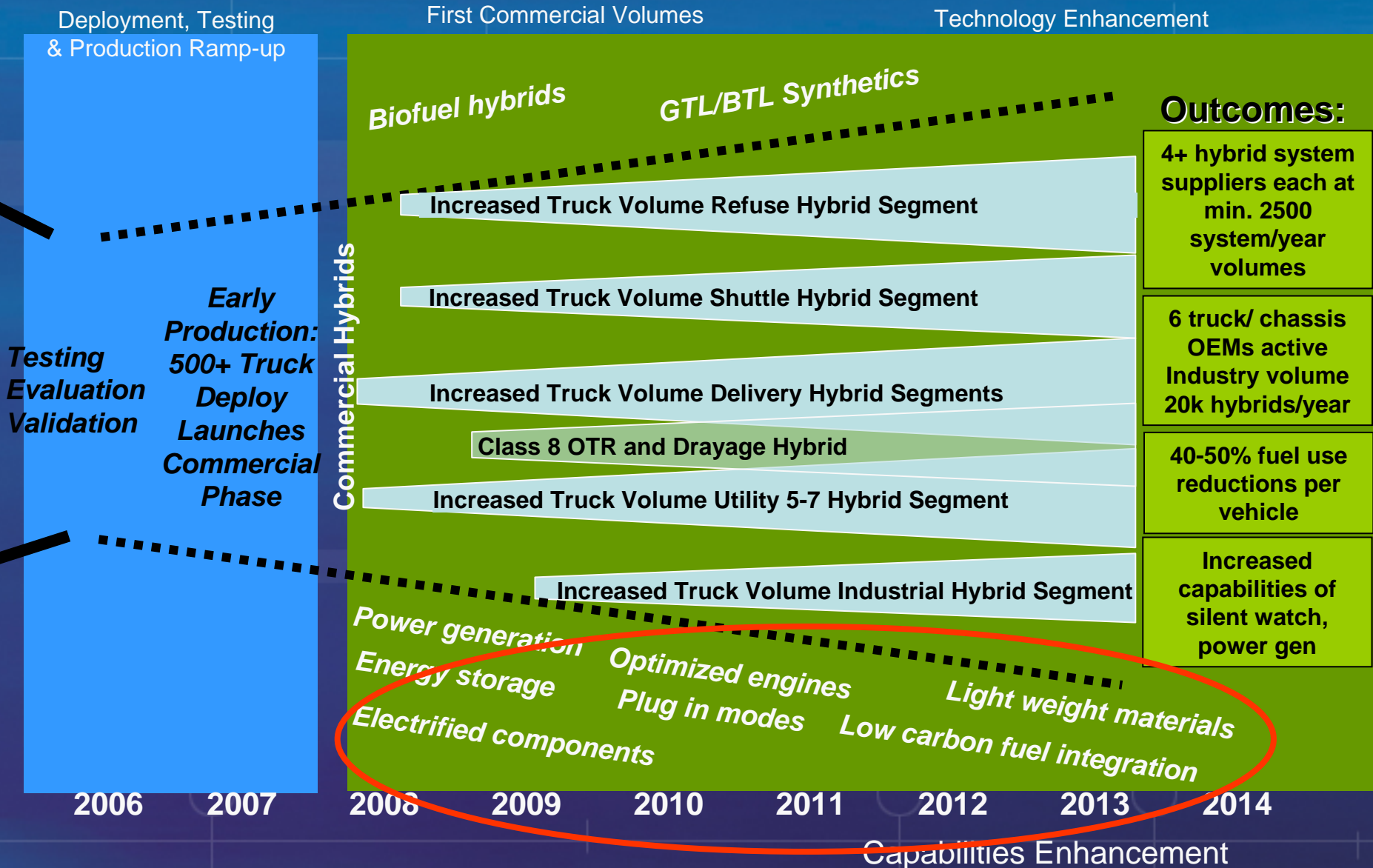
Power generation Optimized engines Light weight materials  
Energy storage Plug in modes Low carbon fuel integration  
Efficient components Start-stop & engine-off "creep"

2006 2007 2008 2009 2010 2011 2012 2013 2014

Capabilities Enhancement

# Where Do We Go Next?

## Hybrids & High Efficiency Trucks



**Clean Transportation Solutions <sup>SM</sup>**  
**Advanced Transportation Technologies <sup>SM</sup>**

**[www.calstart.org](http://www.calstart.org)**



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