EV Everywhere Framing Workshop

*Report Out & Lessons Learned*

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• Framing Workshop was the first of 5 workshops this summer
• Framing document
  • Draft: Facilitate discussion among participants
• Recruit the best and brightest American scientists, engineers, and businesses to tackle this electric vehicle challenge
• Re-evaluate and refine the existing technical goals for increasing performance and cutting costs

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<th>Topic</th>
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<td>Kick-Off Framing Workshop</td>
<td>June 21</td>
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<td>Electric Drive Components</td>
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<td>Advanced Batteries</td>
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<td>Consumer Behavior and Charging Infrastructure</td>
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<td>Lightweight Vehicles and Structures</td>
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The EV Everywhere Challenge Involves All of DOE
The EV Everywhere Challenge

- Benchmark: 5-passenger vehicle
- Majority of vehicle-miles-traveled powered by electricity under standard drive cycles
- 5-year simple payback vs. equivalent gasoline powered vehicle
- Any “vehicle range-charging infrastructure” scenario to be considered must credibly allow for the majority of American consumers to be willing to purchase the PEV as a primary vehicle
- No reduction in grid reliability
Three Scenarios

1. **PHEV40** with limited fast-charge infrastructure,
2. **AEV100** with significant intra-city and inter-city fast charge infrastructure, and
3. **AEV300** with significant inter-city fast charge infrastructure

*Vehicle-level analysis provides a starting point for setting EV Everywhere technical targets for these vehicles.*
Plenary Session

- Presentations by senior leadership
  - Keynote address by Secretary Steven Chu
  - Acting Undersecretary Sandalow
  - EERE Assistant Secretary Danielson
- Analysis Presentation
- Panel Sessions
OEM Panel: Key Challenges in Plug-in Electric Vehicles

- Moderator: John McElroy, Vehicle Journalist, Autoline
- Nancy Gioia, Ford Motor Company
- Tony Posawatz, General Motors Company
- Mark Perry, Nissan

Stakeholder Panel: Plug-in Electric Vehicle Opportunities

- Moderator: John McElroy
- Dennis Beal, FedEx
- Andrew Brown, Delphi Automotive
- Robbie Diamond, The Electrification Coalition
- Bart Riley, A123 Systems
- Mike Rowand, Duke Energy
Major Findings:

- General enthusiasm about EV Everywhere
- Focus on all types of electric drive
- Targets
  - Good inputs, but further discussion needed
  - Targets for each area will be the focus of the remaining workshops
- In general, framing workshop was valuable, but did not provide the required technical depth now sought in the remaining workshops
One of the stronger breakout sessions

Themes:
- Need more consumer education to combat public misconceptions of EVs, and that should begin with consumers who will be buying EVs in 10 years
- Need nationwide standardizations of charging stations, signage, and payment
- Importance of workplace charging
- An interest in government taking the lead in education campaign, up-front incentives, and EV integration into fleets
- More research done on EV consumer behavior - behavior change is a barrier
- Payback time of 5 years may be too long for typical consumers
- Need for more technology to interface with driver for higher comfort level, i.e. driver awareness of state of charge
- “Electric miles driven” is still vague
- EVs should not just be a replacement product, they need value added components
Summary and Lessons Learned

• Need to emphasize the need for new ideas sought through the breakout sessions
• Overall goal of beginning public dialogue and engagement was successful