Vehicle & Systems Simulation & Testing

Lee Slezak
Focus Area activities provide direct and indirect support for evolution of high efficiency vehicles as real world product offerings.

**Component /Systems Evaluation**
- $1.95m
- Virtual vehicle environment
- Energy management development/practices
- Systems benchmarking/evaluations

**Modeling & Simulation**
- $5.25m
- Develop & use modeling tools
- Assess technology potential
- Component Interactions
- Goal setting for R&D

**Lab & Field Evaluations**
- $25.69m
- Performance benchmarking
- Accelerated reliability data
- Modeling tool validation

**Vehicle Systems Optimization**
- $2.225m
- Reduce auxiliary and parasitic loads
- Enabling Technologies

**PEV Codes & Standards**
- $3.56m
- Standards Committee Participation
- Develop and Validate
- Technology Development

**Stakeholders & Partners**
- Original Equip. Manufacturers
- Utilities
- Consumers
- Fleet Owners
- VTP Sub Programs
- DOE Programs
- Policy Makers

**Focus Areas engage stakeholders & partners to provide enablers & remove barriers**

**Focus Area activities provide direct and indirect support for evolution of high efficiency vehicles as real world product offerings**
Recovery Act: Transportation Electrification Initiative

Largest U.S. Electric Vehicle & Charger Deployment Ever

- Approximately $400 million in federal funding to
  - Automotive and Charging Industry
  - Educational Institutions
- Deploys over 13,000 electric-drive vehicles & 22,000 charging stations
- Collect detailed data
- Two EVSE specific projects
Vehicle & Systems Simulation & Testing Accomplishments

- Recovery Act – Initiated data collection on hundreds of vehicles & EVSE units placed in service to date

- 15 million PHEV/EV test miles accumulated on 1,600 Light Duty electric drive vehicles representing 107 different models

- 3.3 million MD/HD HEV test miles accumulated on 85 different vehicles since 2006

- Full release of Autonomie modeling and simulation platform validated and deployed (Argonne National Lab-General Motors CRADA)

- Supported development and validation of PEV connectivity and communications standards
FY 2011 Emphasis

• Support Electric Drive Vehicle (EDV) Market Transformation
  o Fund industry PHEV RD&D
  o Expand Evaluations for PHEV TADA & Transportation Electrification Recovery Act
  o Enhance component/system capabilities
    o Common platform for on-road evaluations
    o Climate extremes testing
    o HIL Studies of Advanced Powertrains
  o Expand AEDV Codes & Standards to address key concerns
• Validate and deploy “Autonomie”