Forecasts of Plug-in Electric Vehicles Adoption

Paths to One Million PEV on U.S. Roads by 2015

Jing Dong
Center for Transportation Analysis
Oak Ridge National Laboratory
Knoxville, Tennessee
• One million PEVs on the road by 2015
  – manufacturers’ production claims accumulate 1.2 million
  – forecasts of consumer adoption are less optimistic
Market Acceptance of Advanced Automotive Technologies Model

- **MA3T model** for projecting U.S. demand for PEVs
  - PHEV (-10, -20, -40) and BEV
  - Light duty vehicles: cars and light duty trucks
Factors Influencing PEV Adoption

• Battery cost
  – $700/kWh in 2011
  – $300/kWh by 2015
  – A significant increase in PHEV20 and PHEV40 sales

• Charging infrastructure
  – Base: 52% home, 5% work and no public charger coverage
  – Public chargers help to increase EV100 and PHEV10 car sales
Factors Influencing PEV Adoption (Cont’d)

• Federal Incentive
  – ARRA: $2,500~$7,500
  – New: $3,000~$10,000
  – More tax credit for EV100 than for PHEV40

• Gas Price
  – Base: AEO estimates a national average of $3/gallon by 2015
  – The economic impact of high gas prices could affect consumers’ ability to buy PEVs
Paths Towards Achieving The One-Million PEV Goal

- Battery technology success
- Oil price surge
- A combination of new tax credit, charger deployment and higher gasoline prices
Thanks!

Q & A