



# IA-HEV

## IA-HEV Task 25 Plug-in Electric Vehicles (PEVs) Objectives & Tasks

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# Task Overview

- Currently 4 confirmed countries: Germany, France, South Korea, US
- Duration: 3 years
- Joining the new task is free

Vehicle Energy  
Consumption



Component &  
Vehicle Cost +  
LCOD



Market  
Penetration

# Proposed Objectives

- **Vehicle Energy Consumption**
  - Compare full-function HEVs, PHEVs, ER-Evs, BEV, BEVx to advanced conventional powertrains (clean diesel, TDI petrol, CNG...).
  - Evaluate impact of regulations on vehicle design
  - Run all current and future standard driving cycles and RWDC
  - Provide inputs required for cost & market penetration
- **Component Cost, Vehicle Cost & TCO**
  - Compare methodologies -> provide recommendation for common approach
  - Compare powertrain technology potential (TCO) for different geographic areas
- **Market Penetration**
  - Compare methodologies -> provide recommendation for common approach
  - Evaluate potential causes of increases in market(s) size, such as rising oil prices, lower battery pack costs, economical infrastructure adaptation, changes of consumer perception.
  - Track, evaluate, and/or study methods to desirably alter charging behavior.
  - Evaluate Policy Alternatives to Increase Market(s) Size
  - Taxes at initial purchase, annual fees, fuel/electricity tax
  - Subsidy structures and quantities

# Current Status

- **Vehicle Energy Consumption**
  - Large number of vehicles for multiple vehicle classes simulated for multiple standards (EU, US, Japan, Worldwide)
  - List of parameters required for cost & market penetration developed
  - First database delivered (~4,000 vehicles including conv, HEV, PHEV, FCEV & BEV from current to 2045 on 5 classes with 3 uncertainties and 5 fuels). Outputs include vehicle energy consumption, component cost, technical specifications...
- **Component Cost, Vehicle Cost & TCO**
  - Common methodology developed for Relevant Cost of Ownership (RCO) calculations
- **Market Penetration**
  - Introduction of different tools completed
- **Paper presented at EVS28 – “Comparison of Energy Consumption and Costs of Different Plug-in Electric Vehicles in European and American Context”**

# Next Meeting Date

- Thursday May 07, JW Marriott, Seoul
- Hope to see you there.
- Please contact me if you are interested to attend [arousseau@anl.gov](mailto:arousseau@anl.gov)