PERCEPTION AND REALITY: AN ASSESSMENT OF PUBLIC KNOWLEDGE OF PLUG-IN ELECTRIC VEHICLES

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Stated Likelihood of Electric Vehicle Purchase
(1 is not likely at all and 10 is highly likely)
Research Questions

• How knowledgeable is the mainstream public about the basic attributes of EVs?
• How aware is the public about existing state and local EV incentives?
• How do individual’s knowledge about EV characteristics and existing public incentives relate to their stated likelihood of purchasing a PEV?
Respondents largely unfamiliar with Electric Vehicles

• Only 30% said they could identify an electric vehicle

• Almost 2/3 of basic factual questions about EVs were answered incorrectly
  – Of these, 78% under-estimated EV’s value, savings, and expected performance

• 94.5% not aware of any state or local EV incentives available in their locales
Respondents largely unfamiliar with EVs

• 45% incorrect on cost premium of a PEV over an otherwise similar gasoline vehicle
Respondents largely unfamiliar with EVs

• 70% incorrect on extent of fuel savings that can be achieved compared to an otherwise similar gasoline vehicle.
Respondents largely unfamiliar with EVs

- 90% incorrect on likely maintenance costs compared to a gasoline vehicle
Respondents largely unfamiliar with EVs

- 65% incorrect on PEV’s maximum range
Respondents largely unaware of PEV incentives

• In 15 of the 21 sample cities, at least one of the following state or local incentives are available;
  – Vehicle purchase credit/subsidy
  – Home charging equipment credit/subsidy
  – HOV lane access
  – Free or discounted parking
  – Discounted license or registration
Number of Sample Cities (n=21) Where Each Policy is Available

- State or local credit or rebate on purchase price: 8
- Credit, rebate or HOV lane access: 12
- Free or reduced city parking: 6
- Discounted license and registration fees: 1
Respondents show low awareness of the state and local incentives available in their own locales
Stated Impact that Policy would have on Decision to Purchase an EV

- Vehicle purchase subsidy
- Incentives for home charging equipment
- HOV lane access
- Free/discounted parking
- Discounted license/registration
Relationship of Vehicle Knowledge and Incentives with Interest in PEVs

• Regression analysis on individuals’ stated intent to purchase a PEV
  – Control variables: age, gender, education, income, environmental attitude, hybrid owner, number of cars in household, average daily mileage
  – Variables of interest: EV familiarity, see chargers in community, financial incentives, non-financial incentives, over or under estimates for purchase price, fuel savings, maintenance, and range
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Summary of Key Findings

• People often unaware of (or mistaken about) basic EV features;

• State and local policy incentives are not being effectively communicated to the public;

• Misperceptions of EV maintenance and fuel savings are significantly associated with stated intent to purchase;
  – May point to informational policy levers able to increase mainstream consumer interest
Limitations

• Uncertainty about how “intent to purchase” translates into actual consumer behavior;

• Reverse causality: (a) Do respondents’ incorrect perceptions limit their interest in PEVs? OR (b) Does limited interest result in incorrect perceptions?

• Calls for additional studies with experimental design.
Thank you!