

Can Renewable Electricity Accelerate Electric Vehicle Demand?

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Behavior, Energy, and Climate Change
12 November 2012
Sacramento, CA



- Should we bundle plug-in electric vehicles (PEVs) with green electricity?
 - Home solar photovoltaic (PV) owners are (vastly) over-represented among present EV buyers
- Are the present consumers of one a good market for the other?

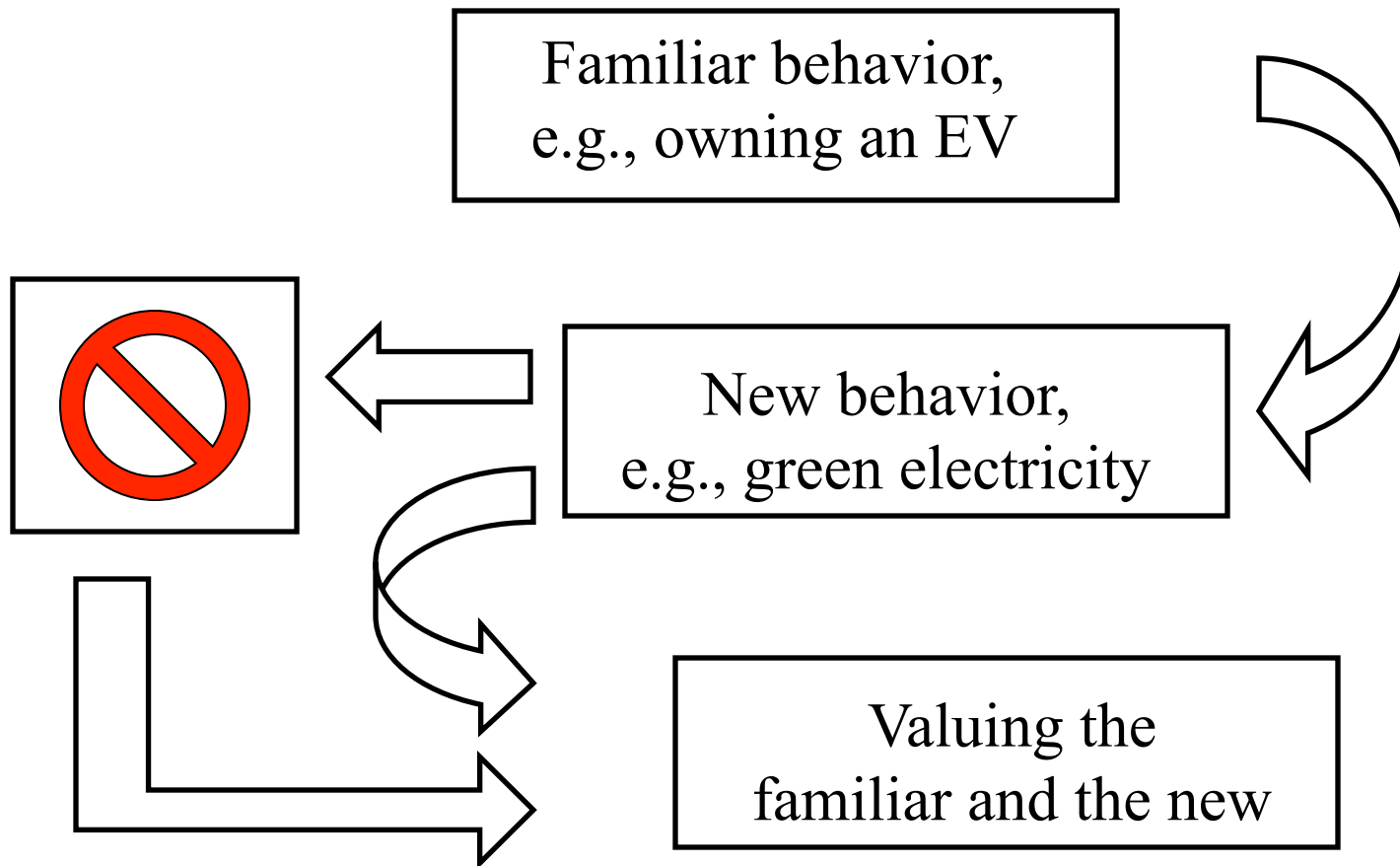


What do consumers say?

- Focus groups
 - EV drivers (MINI-E)
 - ICEV drivers (MINI)
 - Green electricity buyers
 - Green electricity program participants (not PV buyers)
 - Lower income limit to mimic MINI-E and MINI drivers
 - Los Angeles and New Jersey/New York
 - June 2011
- National survey

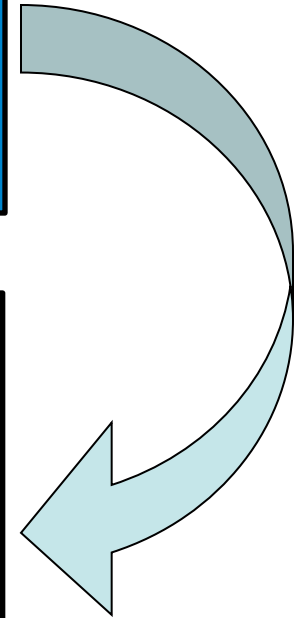


Focus group discussion outline

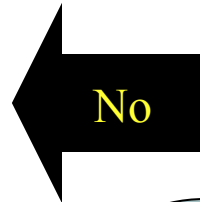




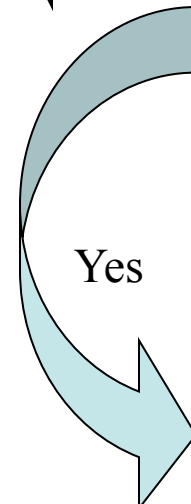
“It was fun to see people’s reactions.”	“If I need to drive 500 miles, I just rent a car.”	“Never fight a war for electricity.”
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“We need to reduce our dependence on foreign oil.”	“There’s all this sun out there and we are just wasting it. Why not use it?”
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“How I drive and whether it’s electric or not, I don’t conjoin that with my support of sustainability.”	“I already feel great about driving the electric car. I don’t need to feel great about paying [my electric utility] more money...”
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“The perfect model is buy an electric car, put a solar array on your house, charge after midnight, and let your solar array feed the grid during the day.”	“I don’t have the opportunity (for PV) so [a green electricity program] is maybe a model where I can still guarantee where my power’s coming from, to do the right thing.”
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Trust Belief Price Fairness	Yes
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EV Drivers: Electricity is better than gasoline

But behind this, two distinct answers...

- Yes! “Run my EV off the sun”
 - Some EV drivers already had home PV
 - A few had purchased PV during their EV lease
 - Ambivalent about utility green electricity programs
- Why should I pay more to make electricity even better than it already is?
 - If anyone should pay to make electricity greener, it should be gasoline vehicle drivers.



“You have to have a global conscience but it has to start locally.”	“It’s a very small amount, so I don’t mind paying.”	“We all have to pay for utilities...you might as well do it in a way that makes a difference.”
“We’re in a time where you don’t trust business. My fear is that it’s a scam.”	“If you plug it in, that power doesn’t just come from thin air. It’s not really renewable even if we want to trick ourselves and call it that.”	

“...oil companies are a cartel...but the electric company, I mean if it’s a plug in [car] and they decide to double [the price of electricity], then what are you going to do?”

No

Yes?

“If you promote an electric car, really you’re promoting power coming from electric plants that are in these poorer communities. Right now if you have a gas [car] you’re polluting almost equally.”	“I think the average [EV range] is about 100 [miles]. It has to go at least twice as far because that’s an average trip.”
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Trust, Belief, Fairness, Engagement with PEVs

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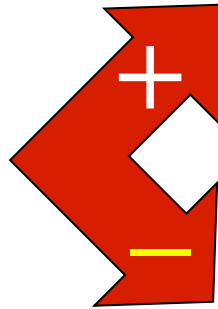
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Green electricity participants: Uncertainty

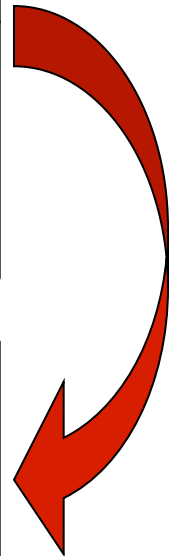
- Green electricity program?
 - They don't know what they are paying or what they are paying for.
 - But it is not that much money and maybe something good will come of it
- EVs?
 - Infrastructure, range, battery—toxicity, EMF, EMR, recycling, life
 - Hybrids are better—you can't "just plug-in and pollute somebody else's neighborhood."



"[EVs] have this incredible torque to take off and phenomenal power."

"Given a choice of breathing what comes out of a car's tailpipe or coming out of the electric car's tailpipe, I'm taking the electric."

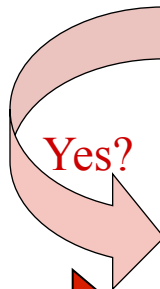
"I'm just afraid of dying. I don't have my charger, what am I going to do. My cell phone is dead, too...Oh no!"



"My house is more important than my car, so I don't want buying a car to influence my house. I'd rather have my house and my lifestyle influence my car."



"The electric company that I went with wasn't any greener, it was just cheaper. You say cheap, there I am."



Engagement with both PEVs and Green electricity





ICEV drivers: What are these two things?

- Unsure about EVs and skeptical of green electricity
 - Questioned EV range, recharging, batteries
 - Even though a few had heard about the MINI E
 - Some put off EVs by their uncertainty about day-to-day usability, but not the environmental credentials.
 - Others are interested in EVs
 - Don't know from where (their) electricity comes
 - Uncertain what people are paying for in green electricity programs



Can Renewable Electricity Accelerate Electric Vehicle Demand?

- Discussions provide clues to clear and build paths to valuing PEVs plus green electricity
 - Distinct motivations, even within “groups”
 - Engagement: Most respondents were not
 - Home solar PVs and green electricity programs are very different things
 - Trust, Belief, Fairness
- Who and how many?
 - Nationwide survey of new car buyers