

# **All sustainable transportation subsidies shouldn't be created equal, experts say**

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When it comes to pumping up the appeal of plug-in hybrid electric vehicles (PHEVs), some regions are more ripe for the cars than others, and some consumers' buttons need more pushing than others - an important policy distinction when shaping subsidies, two energy policy experts say.

In a recent article in [Energy Policy](#), a leading academic journal in the energy field, Steven Skerlos in mechanical engineering at the University of Michigan and James Winebrake, chair of the Department of Science, Technology and Society/Public Policy at Rochester Institute of Technology, and make the case for a better way to target government subsidies aimed at promoting sustainable transportation technologies.

It turns out that giving consumers who live and drive in regions where the social benefits of electric-boosted cars are strongest, and recognizing the circumstances of consumers - such as their income, life stage and family size - gives PHEVs a better shot at both sales and environmental and energy security effectiveness.

"The idea of a one-size-fits-all technology has failed us many times before in automotive policy," said Skerlos, director of the U-M Environmental and Sustainable Technologies Laboratory. "PHEVs that make sense in urban areas where the grid is fairly clean may make much less sense compared to other technology approaches for areas of long distance rural driving. We want to get beyond the notion of a universal 'silver bullet' and understand where PHEVs are most likely to going to

work."

Currently, such subsidies exist for various types of alternative fuel vehicles, although the paper uses the example of new federal subsidies for PHEVs to make its case.

"Subsidies for alternative fuel vehicles, such as PHEVs, are needed in order to move our transportation sector away from petroleum and towards more sustainable technologies and fuels," said Winebrake, who also co-directs the RIT Laboratory for Environmental Computing and Decision Making. "However, blanket subsidies such as those currently in place, are clearly sub-optimal. The administration needs to target its subsidies in areas that maximize social benefit."

Skerlos and Winebrake explain that PHEVs can make the biggest environmental and energy bang for the buck in specific locations. Areas that use low-carbon fuels for electricity production, such as renewable fuels, nuclear power, or natural gas, make more sense than areas that generate electricity from coal.

Second are areas where people drive more, so that the PHEVs displace a greater amount of petroleum.

Third are areas where air quality is sub-standard. Other attributes, such as population density and driving habits are also important.

Buyer demographics, such as income levels, count too. For instance, high-income consumers are more likely to buy a cutting-edge green car with less resistance to cost, sending a flag that subsidies could be more effective to enable lower income consumers buy PHEVs.

The use of tax dollars to subsidize purchases of PHEVs by people who would have bought them anyway should be questioned," Skerlos said.

Winebrake and Skerlos are actively working on the next phase of this research, which is to quantify many of these attributes in order to provide insights into the particular geographic regions and demographic groups that would be optimal targets for PHEV subsidies.

Provided by University of Michigan

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