

Hybrid vehicles produce scant environmental benefits, high cost

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Despite major costs to taxpayers in the U.S. and Canada, government programs that offer rebates to hybrid vehicle buyers are failing to produce environmental benefits, a new UBC study says.

The UBC study evaluates the cost-effectiveness of tax rebates for HEV's in Canada. The researchers estimate the impact that rebates have on the market share of different types of vehicles, and then use information on fuel economy and average kilometres to calculate the cost per tonne of carbon saved by the programs.

The study finds that hybrid sales have come largely at the expense of small, relatively fuel-efficient, conventional cars, rather than large SUVs, trucks and vans, which produce substantially greater carbon emissions.

"If the intention of rebate programs is to replace gas guzzlers with hybrids, they are failing," says Ambarish Chandra, a professor at UBC's Sauder School of Business and study co-author. He says large vehicle sales have risen steadily since the introduction of hybrid rebates.

"Our estimates indicate that two-thirds of people who buy hybrids were going to buy them anyway," says Chandra. "So for the majority, rebates are not changing behaviour – they are subsidizing planned purchases."

"People are also choosing hybrids over similarly priced small- and medium-sized conventional cars, which are not far behind hybrids for fuel efficiency and emissions," says Chandra. "The reductions in carbon emissions are therefore not great."

The study also finds that the majority of consumers who purchase hybrids were not motivated to do so by government rebates, says Chandra, whose co-authors include Sumeet Gulati, assistant professor in UBC's Dept. of Food and Resource Economics, and Milind Kandlikar of UBC's Liu Institute for Global Issues and Institute of Asian Research.

The study finds that Canadian provinces that offer rebates have spent an average of \$195 per tonne of carbon saved. Governments could garner greater environmental benefits by purchasing carbon offsets (currently priced between \$3 and \$40 per tonne on carbon markets) or investing in green jobs and technologies.

A copy of the study, which is under review at the Journal of Environmental Economics and Management, can be obtained by emailing Sally Reay: sally.reay@ubc.ca.



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[The Wrong Target](#) in the National Post

[Hybrid vehicles produce scant environmental benefits, high cost](#), a UBC Media Release

[Hybrid vehicle subsidy programs not working: study](#), in the Vancouver Sun

[Hybrid Vehicles: Despite High Taxpayer Cost, Environmental Effects Negligible](#), on ScientificBlogging.com

[Study: Hybrid car incentives not so eco-smart](#), on Greenbang.com

Biography: Professor Milind Kandlikar

Professor Milind Kandlikar's research focuses on the intersection of technology innovation, human development and the global environment. Dr. Kandlikar is jointly appointed to the Liu Institute for Global Issues and the Institute of Asian Research. His current projects include cross-national comparisons of regulation of agricultural biotechnology; air quality in Indian cities; risks and benefits of nanotechnology; and new technologies for sustainable transportation. He has also published extensively on the science and policy of climate change.

Background: About the Liu Institute for Global Issues

Named after Dr. Jieh Jow Liou, the Liu Institute conducts and facilitates research on global issues, mobilizing knowledge into solutions and policy. One of sixteen research units in the College for Interdisciplinary Studies (CFIS), the Institute takes an interdisciplinary problem-solving approach to explore new ideas and ways of learning to catalyze innovative thinking and positive societal change. Its current focus is on advancing sustainability, security, and social justice: understood as moving toward economic, social, and environmental interactions that promote the well-being of people in ways that are just, equitable, and sustainable.

Founded in 1998 by Professor Ivan Head and opened in 2000, the Institute acts as a hub for global research and emerging issues at the University of British Columbia (UBC).

A hallmark of the Institute is to provide innovative learning and research opportunities for UBC graduate students, postdoctoral fellows, faculty, and community members that help to bridge the gap between academics and practitioners.

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