The Society for Risk Analysis Presents New Research on Who Really Benefits from Energy Efficient Manufacturing

MCLEAN, Va. (Nov. 16, 2017) - Over the last few years, regulators have sought to limit risks from man-made climate change by mandating that a large number of equipment and vehicles, including refrigerators, washing machines, cars and trucks, meet minimum energy efficiency standards. They also claim that the value of the energy savings to consumers exceeds the incremental costs to manufacturers for delivering greater energy efficiency. This energy paradox challenges fundamental notions of how markets work.

Four studies presented at the 2017 Society for Risk Analysis (SRA) Annual Meeting will present new evidence relating to this paradox. The presentations will take place during the New Perspectives on the Energy Paradox symposium on Tuesday, Dec. 12, from 1:30-3 p.m. at the Crystal Gateway Marriott in Arlington, Virginia.

Federal regulation in the energy, environmental and product safety areas often requires the adoption of new technologies. The study, Assessing the Risk of Product Failure in Regulatory Analysis: Case Studies from Energy Efficiency Lawsuits, presents data from several class action lawsuits against manufacturers whose devices should comply with energy efficiency standards but had a higher risk of product failures.

“Regulations can have negative impacts on the quality of everyday products like clothes washers and refrigerators,” said Sofie E. Miller, senior policy analyst at George Washington University Regulatory Studies Center. “Regulators assume that product quality will not change when they write the rules, and this can be bad news for consumers.”

This presentation will explore some of the product quality issues arising with selected DOE energy efficiency rules, the cost implications for consumers, and the extent to which these problems should be incorporated in analyses of these rules. The paper also suggests some approaches that could be adopted to address potential/unwanted changes in product quality.

The Environmental Protection Agency (EPA) and the Department of Transportation released an economic analysis for a recent rule mandating fuel efficiency standards for heavy-duty trucks projecting that the fuel savings to truckers would greatly exceed the costs of acquiring the technology to meet the new standards. However, the possibility that split ownership could reduce incentives to adopt such equipment was identified as one potential market failure. In this case, Arthur Fraas, visiting fellow from Resources for the Future, explained that, “With split ownership, owners of trailers would incur the costs of the fuel-efficient devices while tractor owners would enjoy the savings.” In their study, Assessing the
Energy Paradox in Reasonably Competitive Markets: New Evidence from Heavy Duty Trucking, Fraas and co-authors assess whether separately owned trailers are less likely to carry fuel-efficient equipment.

Vehicle fuel efficiency has become a top priority for vehicle manufacturers with numerous companies investing in designs similar to the Toyota Prius, but consumers have been less enthusiastic about this class of cars.

A study from Indiana University by Denvil Duncan and John Graham explores consumer purchasing decisions regarding conventional hybrid-electric vehicles to determine whether consumer decision-making is consistent with the energy paradox. Using 13 years of data on 54 new hybrid models, the researchers developed a way to show the total cost of ownership to summarize the financial implications in the consumer payback period.

When offered a choice between a hybrid and a traditional gasoline vehicle, fewer than 15 percent of consumers chose the hybrid. This presentation will explore implications for rational choice theory, risk aversion and behavioral economics.

Recent literature has shown that tighter passenger vehicle fuel economy standards cause manufacturers to trade off vehicle performance for fuel economy. In the study How Much Do New Vehicle Consumers Value Fuel Economy and Performance? researchers from Resources for the Future estimate the cost of forgone performance to be approximately equal to expected fuel savings benefits. This contrasts with reports by U.S. regulatory agencies. According to this study, the tightened standards have not benefited consumers, although regulatory reports suggest large consumer benefits.

*Denvil Duncan and John Graham from Indiana University, Joshua Linn, Ph.D., and Arthur Fraas, Ph.D., from Resources for the Future and Sofie Miller, M.P.P., from George Washington University will be available for media interviews at the 2017 SRA Annual Meeting. Please contact Melanie Preve at melanie@bigvoicecomm.com for all interview requests.

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About SRA
The Society for Risk Analysis is a multidisciplinary, interdisciplinary, scholarly, international society that provides an open forum for all those interested in risk analysis. SRA was established in 1980 and has published Risk Analysis: An International Journal, the leading scholarly journal in the field, continuously since 1981. For more information, visit www.sra.org.