



EPP and Center for Climate and Energy Decision Making
In conjunction with the Vehicle Electrification Group

Sponsored Seminar



David Greene

Corporate Fellow

Oak Ridge National Laboratories



Presenting on:

“Overview of the NRC Transitions to Alternative Vehicles and Fuels Study” and “Behavioral Economics and the Energy Paradox: Survey Evidence for 3-Year Payback Periods for Fuel Economy”

April 8, 2013

Seminar 1 at 12:00pm, Seminar 2 at 1:00pm
(Lunch served at 11:50am)
129 Baker Conference Room
Department of Engineering and Public Policy

Seminar Abstracts:

Seminar 1: Overview of the NRC Transitions to Alternative Vehicles and Fuels Study – Achieving an 80% reduction in light-duty vehicle greenhouse gas emissions and petroleum use by 2050 will, by definition, require a transition from fossil petroleum to alternative energy sources for light-duty vehicles. The NRC panel addressing this challenge found that while there remained substantial uncertainty about future technological progress and the market response, achieving the goals within this time period might be possible. Strong, adaptable policies would be required. The transition would have to begin soon, before the best pathway was clear, and more than one of the major technological options (energy efficiency, electrification, biofuels and hydrogen) would have to succeed. If two or more of the major technological options were successful, the benefits of an energy transition would likely exceed the costs by approximately an order of magnitude. *Transitions to Alternative Vehicles and Fuels*, National Academies Press.

Seminar 2: Behavioral Economics and the Energy Paradox: Survey Evidence for 3-Year Payback Periods for Fuel Economy – The energy paradox (the existence of substantial potential to increase energy efficiency that is not adopted by markets) has been an important subject of debate in energy economics for decades. Numerous possible explanations have been offered and substantial empirical evidence presented on both sides of the issue. In my opinion, behavioral economics resolves the theoretical debate on the side of markets generally substantially undervaluing future energy savings from efficiency improvements relative to their expected value. I will present evidence from four U.S. nationwide random sample surveys on consumers’ willingness to pay for increased fuel economy. The evidence strongly supports a typical payback period of about 3 years and is consistent with the well-established behavioral economic theory of loss aversion.

Speaker Bio: David L. Greene is a Corporate Fellow of Oak Ridge National Laboratory, Senior Fellow of the Howard H. Baker, Jr. Center for Public Policy and a Research Professor of Economics at the University of Tennessee. He is an author of more than 250 professional publications on transportation and energy issues, including 100 articles in peer-reviewed journals and National Research Council reports. The 2012 recipient of the Transportation Research Board’s Roy W. Crum Award, he is also an emeritus member of both the Energy and Alternative Fuels Committees of the TRB and a lifetime National Associate of the U.S. National Academies. He serves on the editorial boards of *Energy Policy*, *Transportation Research: Environment* and the *Journal of Transportation and Statistics*. He received the Society of Automotive Engineers’ Barry D. McNutt Award for Excellence in Automotive Policy Analysis, the Department of Energy’s 2007 Hydrogen R&D Award and 2011 Vehicle Technologies R&D Award, the Association of American Geographers Edward L. Ullman Award, and was recognized by the Intergovernmental Panel on Climate Change for contributions to the IPCC’s receipt of the 2007 Nobel Peace Prize. He holds a B.A. from Columbia University, an M.A. from the University of Oregon, and a Ph.D. in Geography and Environmental Engineering from The Johns Hopkins University.