E.ON Energy Research Center | RWTH AACHEN UNIVERSITY

FCN | Institute for Future Energy Consumer Needs and Behavior
Chair of Energy Economics and Management | Prof. Dr. Reinhard Madlener

Seminar in Economics (VWL, SS 2018) **LV 18ss-39082**

"Behavioral Energy and Environmental Economics"

AIM AND SCOPE

Traditional economics considers decision makers as 'optimizers' who always make rational choices. Using insights from psychology, behavioral economics as a field provides an extensive body of evidence contradicting the notion of the *homo economicus* and identifying distinct limitations – among others -- on attention, memory, and self-control that systematically have an effect on the choices we make. In this seminar, we will first consider some of these and further biases (e.g., different incentives, bounded rationality and choice architecture, information framing, pro-social and -environmental behavior, and time preferences) leading to deviations from rationality and study recent works that consider situations in the energy and environmental domain. We will examine the literature that delves into how behavioral biases play a role when the decision-making concerns energy use and environmental behavior. Finally, we will discuss how these findings might inform energy and environmental policy.

ORGANIZATION

The seminar will take place in a blocked format on July 13 and 16 at the E.ON Energy Research Center (Room 00.23), Mathieustraße 10 (Campus Melaten).

This seminar targets at students studying in the B.Sc. programs in Business Administration and Economics. For participation, basic knowledge in microeconomics is required. We also welcome students from other disciplines with a sound background in economics. The maximum number of participants is restricted to 18. Registration for this seminar is compulsory, as is participation in the pre-meeting.

SEMINAR STRUCTURE

We will cover a list of research articles, consisting of new research articles written on the intersection of behavioral, energy, and environmental economics. All students are required to read the article written by Allcott and Mullainathan (2010), Chetty (2015) together with the book chapter written by Elke Weber, which provide a broad review of the relevance of behavioral economics in public policy and especially in energy and environment applications. Moreover, we expect students to benefit from the four review books as well as the method book listed further below for the seminar work.

Students are required to **(i)** submit an essay two weeks before the seminar takes place, which summarizes the topic of an assigned paper. During the seminar, every student is expected to **(ii)** present this assigned paper and **(iii)** discuss another paper. A week after the seminar, students must hand in **(iv)** a short research proposal.

(i) The **essay** should give **more than just a simple summary** of the assigned paper. You should introduce and motivate your essay by discussing the relevance of the topic chosen, provide what the other studies in this thematic area have already done, and describe the original contribution of the assigned paper. In addition to this, you should deliver a summary of the main findings and include **your own critical** discussion - which can be either positive or negative (but constructive) - of the assigned paper.

(ii) The **presentation** should focus on the main results of the assigned paper and how it relates to the other relevant literature.

(iii) The **critical discussion** of a second paper should enable starting a general discussion, i.e., you might discuss the shortcomings and policy implications of the paper.

(iv) The **research proposal** should describe an independent research idea/question and should depict an outlook on the research design to address this research question.

Grading will be based on the items **(i)** through **(iv)** as well as **(v) active participation in** the discussions during the seminar. 66.6% of your final grade will be based on the items **i+ii+v**, the other 33.3% on the remaining items.

We will discuss further details during the pre-meeting, which will take place on April 24 at 2:00 p.m. at the E.ON Energy Research Center (Room 00.23), Mathieustraße 10 (Campus Melaten).

LITERATURE

Compulsory Reading

Allcott, H. and S. Mullainathan (2010), Behavior and Energy Policy, *Science* 327(5970), 1204.

Chetty, R. (2015), Behavioral Economics and Public Policy: A Pragmatic Perspective, *The American Economic Review*, *105*(5), 1-33.

Weber, E., (2013), Doing the Right Thing Willingly. *Using the Insights of Behavioral Decision Research for Better Environmental Decisions*, In: *The Behavioral Foundations of Public Policy* (ed.)*,* Princeton University Press, Princeton, NJ, U.S.A., Ch. 22, *380-397*.

Review Books

Ariely, D. (2008), *Predictably Irrational*, HarperCollins, New York, NY, U.S.A..

Thaler, R. H. and R. Sunstein Cass (2008), *Nudge: Improving Decisions about Health, Wealth, and Happiness*, Yale University Press, New York, NY, U.S.A..

Wilkinson, N. and M. Klaes (2012), *An Introduction to Behavioral Economics* (2nd ed.), Palgrave Macmillan, Basingstoke, Hampshire, U.K..

Shafir, E. (2013), *The Behavioral Foundations of Public Policy* (ed.), Princeton University Press, Princeton, NJ, U.S.A..

Method Book

Angrist, J. D., and J.-S. Pischke (2009), *Most Harmless Econometrics: An Empiricist's Companion*, Princeton University Press, Princeton, NJ, U.S.A..

Seminar Articles

Social Norms and Different Incentives

1) Allcott, H. (2011). Social norms and energy conservation. *Journal of Public Economics*, *95*(9), 1082-1095.

2) Allcott, H., & Rogers, T. (2014). The short-run and long-run effects of behavioral interventions: Experimental evidence from energy conservation. *The American Economic Review*, *104*(10), 3003-3037.

3) Dolan, P., & Metcalfe, R. D. (2015). Neighbors, knowledge, and nuggets: Two natural field experiments on the role of incentives on energy conservation. Center for Economic Performance Discussion Paper No. 1222.

4) Ito, K., Ida, T., & Tanaka, M. (2017). Moral suasion and economic incentives: Field experimental evidence from energy demand. *American Economic Journal: Economic Policy (Forthcoming).*

5) List, J. A., Metcalfe, R. D., Price, M. K., & Rundhammer, F. (2017). Harnessing policy complementarities to conserve energy: evidence from a natural field experiment, NBER Working Paper Series, Working Paper No. 23355

Consumer Choice

6) Anderson, S. T., Kellogg, R., & Sallee, J. M. (2013). What do consumers believe about future gasoline prices?. *Journal of Environmental Economics and Management*, *66*(3), 383-403.

7) Hortaçsu, A., Madanizadeh, S. A., & Puller, S. L. (2017). Power to choose? An analysis of consumer inertia in the residential electricity market. *American Economic Journal: Economic Policy*, *9*(4), 192-226.

8) Ito, K., Ida, T., & Tanaka, M. (2016). Information Frictions, Inertia, and Selection on Elasticity: A Field Experiment on Electricity Tariff Choice. Working Paper. University of Chicago.

9) Jessoe, K., & Rapson, D. (2014). Knowledge is (less) power: Experimental evidence from residential energy use. *The American Economic Review*, *104*(4), 1417-1438.

Time preferences

10) Allcott, H., & Wozny, N. (2014). Gasoline prices, fuel economy, and the energy paradox. *Review of Economics and Statistics*, *96*(5), 779-795.

11) Busse, M. R., Knittel, C. R., & Zettelmeyer, F. (2013). Are consumers myopic? Evidence from new and used car purchases. *The American Economic Review*, *103*(1), 220-256.

Nudging (Choice Setting)

12) Allcott, H., & Kessler, J. B. (2017). The welfare effects of nudges: A case study of energy use social comparisons. NBER Working Paper Series, Working Paper No. 21671.

13) Costa, D. L., & Kahn, M. E. (2013). Energy conservation “nudges” and environmentalist ideology: Evidence from a randomized residential electricity field experiment. *Journal of the European Economic Association*, *11*(3), 680-702.

14) Gillingham, K., & Tsvetanov, T. (2017). Nudging energy efficiency audits: Evidence from a field experiment. Working Paper, Yale University.

15) Newell, R. G., & Siikamäki, J. (2014). Nudging energy efficiency behavior: The role of information labels. *Journal of the Association of Environmental and Resource Economists, 1(4)*, 555-598.

Limited Attention

16) Allcott, H., & Taubinsky, D. (2015). Evaluating behaviorally motivated policy: Experimental evidence from the lightbulb market. *The American Economic Review*, *105*(8), 2501-2538.

17) Allcott, H., & Knittel, C. (2017). Are consumers poorly-informed about fuel economy? Evidence from two experiments. NBER Working Paper Series, Working Paper No. 23076.

18) Houde, S. (2017). How consumers respond to product certification and the value of energy information. University of Maryland, Working Paper No. 17-08.

FURTHER INFORMATION

You will find further information at the FCN homepage (www.fcn.eonerc.rwth-aachen.de) and in the L2P eLearning platform. For the remaining questions related to the organization, please contact **Sabine Schill** via e-mail (post_fcn@eonerc.rwth-aachen.de) and for the questions related to the content **Ayse Tugba Atasoy**, M.Sc. (tatasoy@eonerc.rwth-aachen.de).