

MARIA GARCIA-OSIPENKO

Department of Economics | Arizona State University
501 E Orange St, #415B, Tempe, AZ, 85281

mosipenk@asu.edu | +1 (480) 819-5661 | mariagarciaosipenko.com

EDUCATION

Arizona State University	Doctor of Philosophy, Economics	Expected May 2026
Arizona State University	Master of Science, Economics	December 2022
Siberian Federal University	Bachelor, Economics	June 2020
University of Minnesota	Exchange Student, Economics	2017-2018

RESEARCH FIELDS

Environmental Economics, Energy Economics, Industrial Organization

PUBLICATIONS

“Green Economy as a Labor Productivity Factor in the Manufacturing Industry of European Union Countries” with Vladislav N. Rutskiy, *Financial Journal*, 2020

WORKING PAPERS

“Optimizing Electricity Rates: Evidence from Commercial and Industrial Firms” (*Job Market Paper*)

Electricity demand from commercial and industrial (C&I) firms accounts for more than half of total load in many U.S. utilities, yet relatively little is understood about how firms select among electricity rate options or adjust consumption in response to pricing. Although marginal system costs vary substantially throughout the day, the majority of firms remain on time-invariant price plans. Time-of-use (TOU) rates introduce temporal variation in prices and provide a partial mechanism for aligning demand with system costs, however, the effectiveness depends critically on their design. Using administrative data from a large U.S. utility, I document that firms switching to TOU pricing reduce peak-period demand, with significant heterogeneity across industries. I then develop and estimate a structural model of rate selection and hourly electricity consumption that incorporates operational flexibility, price responsiveness, and adjustment frictions. Identification leverages variation from switching plans and quasi-random bill shocks. The estimated framework enables counterfactual analyses of alternative pricing menus and their implications for customer surplus, system costs, and environmental outcomes.

“Technology Complementarities and Subsidy Policy: Evidence from Electric Vehicle and Solar Panel Adoption”

Revise and Resubmit, Journal of the Association of Environmental and Resource Economists

Government policies target air pollution and climate change by incentivizing adoption of electric vehicles (EVs) and/or residential solar panels (PVs). Knowledge of whether these goods are complements or substitutes can be used to design policies that target environmental externalities more efficiently. I use California household-level data to estimate a structural multi-product demand model. I find that consumers view PVs and EVs as complements, with the degree of complementarity varying with vehicle size and income. Counterfactual experiments reveal that complementarity significantly increases bundled EV-PV purchases. This complementarity can be leveraged to design policies that achieve emission targets at lower cost.

“Endogenous Rigidities and Capital Misallocation: Evidence from Containerships” with Nicholas Vreugdenhil and Nahim Bin Zahur

Revise and Resubmit, Journal of Political Economy

We investigate how endogenous rigidities inhibit physical capital reallocation. We focus on the role of contract duration - a classic example of an adjustment rigidity. We argue when agents sign longer contracts in booms

when markets are thin, they generate a contracting externality which further amplifies thinness and impedes the adjustment of markets to shocks. We develop a framework with booms and busts where agents search and choose match duration. Applying the framework to the containership leasing market, we find substantial misallocation from endogenous rigidities, particularly in the transition after a crash. We also quantify implications for designing industrial policy.

[“Optimal Second-best Menu Design: Evidence from Residential Electricity Plans”](#) with Nicolai Kuminoff, Spencer Perry, and Nicholas Vreugdenhil

Submitted

Utilities increasingly sell electricity using complex menus of time-constant and time-varying price schedules. We study how to design such a menu to maximize social welfare in a second-best environment where the marginal private and external costs of generating electricity vary over time, institutional constraints prevent mandating time-varying pricing, and consumer behavior is distorted by frictions. We develop a model of plan choice, consumption, and intertemporal substitution with time-varying marginal social costs, and estimate it using administrative data from a large utility. We provide evidence of substantial intertemporal substitution in response to time-varying price incentives, and selection across plans based on multidimensional heterogeneity. While the current menu’s time-varying plans substantially shift consumption from high-price to low-price hours, we find that they reduce social welfare. This loss is mitigated by information frictions. We show how to redesign the menu to simultaneously improve outcomes for consumers, the utility, and the environment.

RESEARCH EXPERIENCE

Arizona State University

August 2023 - Present: Research Assistant for Nicolai Kuminoff

May 2022 - Present: Research Assistant for Nicholas Vreugdenhil

Siberian Federal University

Dec 2016 - May 2017: Research Assistant for Vladislav N. Rutskiy and N N Tarun Chakravorty

ACADEMIC PRESENTATIONS

- 2025 Environmental and Energy Economics Workshop at the University of Arizona
- 2024 SWEEP at Georgia Tech University, Energy Camp at UC Berkeley, AERE Summer Conference
- 2023 NCSU Camp Resources, Berkeley/Sloan Summer School in Environmental and Energy Economics, AERE Sessions at the Western Economic Association Conference, Arizona Workshop on Environment, Natural Resources, and Energy Economics

TEACHING EXPERIENCE

Instructor

Microeconomic Principles

Teaching Assistant

Public Economics, Industrial Organization and Competition Policy, Environmental Economics, Business Statistics, Macroeconomic Principles

AWARDS

- 2023 Rondthaler Emeritus Award “Most Deserving Graduate Student in the Program”, ASU Economics Dept
- 2023 “Best Progress Towards Dissertation”, ASU Economics Dept
- 2023 Travel Grant Award, ASU Graduate and Professional Student Association

GRANTS

Predicting Commercial and Industrial Electricity Load. PhD Student Investigator. 2024-2025. Salt River Project, \$68,866 (PI: Nicolai V. Kuminoff, Co-PI: Nicholas Vreugdenhil)

Predicting Residential Price Plan Enrollment and Energy Use. PhD Student Investigator. 2023-2024. Salt River Project, \$50,042. (*PI: Nicolai V. Kuminoff, Co-PI: Nicholas Vreugdenhil*)

ADDITIONAL INFORMATION

Languages: English (fluent), Russian (native)

Programming: Stata, Python, MATLAB, LaTeX, Git, GitHub

REFERENCES

Nicolai V. Kuminoff

Associate Professor

Department of Economics

Arizona State University

kuminoff@asu.edu

Nicholas Vreugdenhil

Assistant Professor

Department of Economics

Arizona State University

nvreugde@asu.edu

Alvin Murphy

Associate Professor

Department of Economics

Arizona State University

alvin.murphy@asu.edu

PLACEMENT CONTACTS

Placement Director: Professor Gustavo Ventura

gustavo.ventura@asu.edu

480.965.XXXX

Placement Coordinator: Laura Talts

ltalts@asu.edu

480.727.7931