

CV: Gregor Semieniuk

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Political Economy Research Institute
University of Massachusetts Amherst
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Qualifications and Work Experience

Current Position

Assistant Research Professor 2019-
Political Economy Research Institute & Department of Economics
University of Massachusetts Amherst

Education/Qualifications

Fellow of the UK Higher Education Academy 2019
PhD in Economics, New School for Social Research 2015
Master of Science in Economics, New School for Social Research 2013
Bachelor of Arts in International Relations, Technische Universität Dresden 2010

Affiliations and Employment History

Research Associate 2022-
Department of Economics, SOAS University of London
Senior Lecturer in Economics (on leave) 2020-22
Department of Economics, SOAS University of London
Research Associate 2017-
Institute for Innovation and Public Purpose, University College London
Associate Faculty, Science Policy Research Unit, University of Sussex 2016-
Lecturer in Economics, Department of Economics, SOAS University of London 2016-20
Postdoctoral Researcher on EU Horizon 2020 Grant DOLFINS 2015-16
Science Policy Research Unit, University of Sussex
Research Assistant, New School for Social Research, New York City 2013-14
Summer Research Associate, Macroeconomic Policy Institute, Düsseldorf 2011

Research Fields

political economy of rapid structural change; environmental and ecological economics; growth economics

Funded External Grants

ClimateWorks for Mobilizing Low-Carbon Investments, co-PI with M. Mazzucato (awarded \$372,000) 2019-23

UK Natural Environment Research Council for Modeling Transition Risks, co-I with N. Edwards, J.-F. Mercure, J. Viñuales (awarded £225,000) 2019-20

UK Economic and Social Research Council via Rebuilding Macroeconomics for Long Term Patterns in Exports Baskets, co-I with Isabella Weber (awarded £65,000) 2019-20

Consultancies

European Commission–Directorate General for Research & Innovation, Study on Innovation towards 2050 climate neutrality, expert reviewer 2022

European Commission–Directorate General for Energy, Study on the Macroeconomics of the Energy Union, expert reviewer 2019

United Nations Environment Program, Emissions Gap Report, chapter lead author 2018

Department of Business, Energy and Industrial Strategy (BEIS), UK, Evaluating the renewable energy Contract for Difference (CfD) auction scheme, task leader 2018

Honors and Awards

Warren Samuels Prize for Interdisciplinary Research in the History of Economic Thought and Methodology 2019

Frieda Wunderlich Outstanding Dissertation Award 2015

Robert Heilbroner Dissertation Fellowship 2014

University Fellowship 2012

Alvin Johnson Memorial Fellowship 2010

Fulbright Foreign Student Fellowship 2010

Studienstiftung Fellowship 2007

Teaching

University of Massachusetts Amherst:

Political Economy of the Environment (undergraduate) 2020 & 2022

Political Economy of the Environment (graduate) 2020 & 2022

Intermediate Microeconomics (undergraduate) 2020

<u>Oxford University:</u>	
Lecture on Financing Sustainable Energy Futures (graduate)	2018 & 19
<u>SOAS University of London:</u>	
Limits to Growth? (undergraduate & graduate)	2019
Microeconomics (graduate)	2016-18
Introduction to Economic Analysis (undergraduate)	2016-18
<u>University of Sussex:</u>	
Quantitative Methods (graduate)	2016
<u>New School for Social Research:</u>	
Computer language workshop: R, Mathematica	2013
Teaching assistant for Mathematics for Economists (graduate)	2011, 2013

Publications

Google Scholar: 1462 citations, h-index 15; Web of Science: 518 citations, h-index 10

Peer-Reviewed Publications

Semieniuk, G., P. Holden, J.-F. Mercure, P. Salas, H. Pollitt, K. Jobson, P. Vercoulen, U. Chewpreecha, N. Edwards & J. Viñuales. (2022). Stranded fossil-fuel assets translate to major losses for investors in advanced economies. *Nature Climate Change* 12(6), 532–538. <https://doi.org/10.1038/s41558-022-01356-y>

Note: Covered by 36 news outlets, including *The Guardian*, *FT* & *Bloomberg*. In the top 1% of all output ever scored by Altmetric.

Mercure, J.-F., P. Salas, P. Vercoulen, **G. Semieniuk**, A. Lam, H. Pollitt, P. Holden, N. Vakilifard, U. Chewpreecha, N. Edwards & J. Viñuales. (2021). Reframing incentives for climate policy action. *Nature Energy* 5(12), 1133–1143. <https://doi.org/10.1038/s41560-021-00934-2>

Note: Covered in 29 news outlets, including an exclusive in *The Guardian*. In the top 1% of all output ever scored by Altmetric.

Semieniuk, G., L. Taylor, A. Rezai & D. Foley. (2021). Plausible energy demand patterns in a growing global economy with climate policy. *Nature Climate Change* 11(4), 313-318. <https://doi.org/10.1038/s41558-020-00975-7>

Note: In the top 2% of all output ever scored by Altmetric.

Brockway, P., S. Sorrell, **G. Semieniuk**, M. Heun & V. Court. (2021). Energy efficiency and economy-wide rebound effects: a review of the evidence and its implications. *Renewable and Sustainable Energy Reviews* 141, 110781. <https://doi.org/10.1016/j.rser.2021.110781>

Note: Highly cited paper in Web of Science (top 1% in engineering for articles of similar age). Mentioned in 10 news outlets. Journal's most mentioned article in the past 3 years.

Semieniuk, G., E. Campiglio, J.-F. Mercure, U. Volz & N. Edwards. (2021). Transition risks for finance. *Wiley Interdisciplinary Reviews Climate Change* 12(1), e678. <https://doi.org/10.1002/wcc.678>

*Brutscher, P., P. Ravillard & **G. Semieniuk**. (2021). Do Firms With Higher Energy Efficiency Have Better Access to Finance? *The Energy Journal* 42(6), 171-196. <https://doi.org/10.5547/01956574.42.6.pbru>

Semieniuk, G. & I. Weber. (2020). Inequality in Energy Consumption: Statistical Equilibrium or a Question of Accounting Conventions? *European Journal of Physics: Special Topics* 229, 1705-1714. <https://doi.org/10.1140/epjst/e2020-900125-5>

Semieniuk, G. & V. Yakovenko. (2020). Historical Evolution of Global Inequality in Carbon Emissions and Footprints versus Redistributive Scenarios. *Journal of Cleaner Production* 264, 121420. <https://doi.org/10.1016/j.jclepro.2020.121420>

*Deleidi, M., M. Mazzucato & **G. Semieniuk**. (2020). Neither crowding in nor out: Public direct investment mobilising private investment into renewable electricity projects. *Energy Policy* 140, 111195. <https://doi.org/10.1016/j.enpol.2019.111195>

Weber, I. & **G. Semieniuk**. (2019). American Radical Economists in Mao's China: From Hopes to Disillusionment. *Research in the History of Economic Thought and Methods* 37(A), 31-63. <https://doi.org/10.1108/S0743-41542019000037A005>

Note: Won the 2018 Warren Samuels Prize for Interdisciplinary Research in the History of Economic Thought and Methodology.

*Mazzucato, M. & **G. Semieniuk**. (2018). Financing Renewable Energy: Who Is Financing What, and Why It Matters. *Technological Forecasting and Social Change* 127, 8-22. <https://doi.org/10.1016/j.techfore.2017.05.021>

Note: Highly cited paper in Web of Science (top 1% in social science, general for articles of similar age). Article has 41 policy citations according to PlumX Metrics.

*Mazzucato, M. & **G. Semieniuk**. (2017). Public Financing of Innovation: New Questions. *Oxford Review of Economic Policy* 33(1), 24-48. <https://doi.org/10.1093/oxrep/grw036>

Note: In the top 5% of all output ever scored by Altmetric.

Semieniuk, G. (2017). Piketty's Elasticity of Substitution: A Critique. *Review of Political Economy* 29(1), 64-79. <https://doi.org/10.1080/09538259.2016.1244916>

*Scharfenaker, E. & **G. Semieniuk**. (2017). A Statistical Equilibrium Approach to the Distribution of Profit Rates. *Metroeconomica* 68(3), 465-499. <https://doi.org/10.1111/meca.12134>

*Scharfenaker, E. & **G. Semieniuk**. (2015). A Mixture Model for Filtering Firms' Profit Rates. *Springer Proceedings in Mathematics and Statistics* 126, 153-164. https://doi.org/10.1007/978-3-319-16238-6_14

Work in Progress

The impact of changing GDP accounting conventions on evidence for decoupling. Single authored. Full draft available [here](#).

Persistence in World Export Patterns and Productive Capabilities Across Two Globalizations. With I. Weber, T. Westland & J. Liang. UMass working paper available [here](#).

* Alphabetical author order.

Employment impacts of fossil fuel subsidy removal with revenue recycling. With R. Pollin & S. Chakraborty.

Scale economies in renewable energy project finance. With J. Coronado & M. Mazzucato. IIPP working paper available [here](#).

A comprehensive, partial-equilibrium energy rebound analysis framework. With M. Heun & P. Brockway. IAEE working paper available [here](#).

Transboundary Climate-related Risks: Analysing the Impacts of a Decarbonization of the Global Economy on International Trade, Finance, and Money. With U. Volz, E. Campiglio, E. Espagne, J.-F. Mercure, W. Oman, H. Pollitt & R. Svartzman. IMF Statistical Forum conference paper available [here](#).

Non-peer reviewed papers/reviews

Semieniuk, G. & P. Holden. (2022). Fossil-fuel stranded asset risks held by individuals in OECD countries and non-OECD governments. *Nature Climate Change* 12(6), 510–511. <https://doi.org/10.1038/s41558-022-01373-x>

Semieniuk, G. (2022). Industrial policies and the competition for low-carbon manufacturing. *Joule* 6(4), 713-15. <https://doi.org/10.1016/j.joule.2022.03.007>

Lamperti, F., M. Mazzucato, A. Roventini & G. Semieniuk. (2019). The green transition: Public policy, finance and the role of the state, *Vierteljahreshefte zur Wirtschaftsforschung (Quarterly Journal of Economic Research)* 88(2), 1-16.

Book Chapters

Semieniuk, G. & M. Mazzucato. (2019). Financing Green Growth. In R. Fouquet, ed., *Handbook on Green Growth*, Cheltenham: Elgar.

Mazzucato, M., G. Semieniuk, et al. (2018). Bridging the gap: The role of innovation policy and market creation. In *Emissions Gap Report 2018*, UNEP.

Semieniuk, G., T. v. Treeck and A. Truger. (2012). Nothing learned from the crisis? Some remarks on the stability programmes 2011–2014 of the Euro area governments with. In J. Jespersen and M. Madsen, ed., *Keynes's General Theory for Today*, Cheltenham: Elgar.

Other Working Papers

Semieniuk, G. (2018). Energy in Economic Growth: Is Faster Growth Greener? *SOAS Department of Economics Working Paper 208*.

Semieniuk, G. (2012). Still focused on public deficits. Some remarks on the euro area stability programmes 2012-15. *IMK working paper 2012-101*.

Policy Reports

Pollin, R., J. Wicks-Lim, S. Chakraborty, G. Semieniuk & J. Yoon. (2022). A Green Economy Transition Program for South Korea. Political Economy Research Institute, Report.

Note: Translated to the Korean.

Pollin, R., S. Chakraborty, C. Kline & G. Semieniuk. (2021). Impact of the U.S. THRIVE Program at Congressional District Levels. Political Economy Research Institute, Report.

Pollin, R., J. Wicks-Lim, S. Chakraborty, C. Kline & G. Semieniuk. (2021). A Program for Economic Recovery and Clean Energy Transition in California. Political Economy Research Institute, Report.

Pollin, R., J. Wicks-Lim, S. Chakraborty, G. Semieniuk & C. Lala. (2021). State-Level Employment Impacts of Proposed National THRIVE Agenda. Political Economy Research Institute, Report.

Pollin, R., J. Wicks-Lim, S. Chakraborty & G. Semieniuk. (2021). Impacts of the Reimagine Appalachia & Clean Energy Transition Programs for West Virginia. Political Economy Research Institute, Report.

Pollin, R., J. Wicks-Lim, S. Chakraborty & G. Semieniuk. (2020). Impacts of the Reimagine Appalachia & Clean Energy Transition Programs for Pennsylvania. Political Economy Research Institute, Report.

Pollin, R., J. Wicks-Lim, S. Chakraborty & G. Semieniuk. (2020). Impacts of the Reimagine Appalachia & Clean Energy Transition Programs for Ohio. Political Economy Research Institute, Report.

Pollin, R., J. Wicks-Lim, S. Chakraborty & G. Semieniuk. (2020). A Program for Economic Recovery and Clean Energy Transition in Maine. Political Economy Research Institute, Report.

Datasets

Semieniuk, G., P. Holden, J.-F. Mercure, P. Salas, H. Pollitt, K. Jobson, P. Vercoulen, U. Chewpreecha, N. Edwards, J. Viñuales. (2022). Figure data and model used in Stranded fossil-fuel assets translate to major losses for investors in advanced economies (1.0) [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.6347122>

Brockway, P., G. Semieniuk, E. Aramendia. (2021). Datasets for energy efficiency and economy-wide rebound effects: a review of the evidence and its implications. [Data Collection]. University of Leeds. <https://doi.org/10.5518/956>

Semieniuk, G. (2021). Primary energy demand and GDP per capita for most countries of the world, 1950-2014. [Data Collection]. Colchester, Essex: UK Data Service.

Other Writings

Semieniuk, G. (2022). Wie die deutsche Aktienrente mit gestrandeten Vermögenswerten im fossilen Energiesektor zusammenhängt. *Inclusive Productivity Blog*, July 6.

Semieniuk, G. & P. Holden. (2022). Who really owns the oil industry's future stranded assets? If you own investment funds or expect a pension, it might be you. *The Conversation*, May 26.

Taylor, L., G. Semieniuk, D. Foley & A. Rezai. (2021). To Fight Climate Change, Save Energy and Reduce Inequality. Institute for New Economic Thinking, Commentary.

Semieniuk, G. (2021). Economic development and energy demand. Behind the paper blog on Springer Nature Sustainability Community.

Mazzucato, M., G. Semieniuk, & J. Coronado (2020). Public investments in a green recovery from COVID-19: What steps can Canada take? Smart Prosperity Institute, Commentary.

Semieniuk, G., L. Taylor and A. Rezai. (2018). A Reply to Michael Grubb. *Institute for New Economic Thinking*, Commentary.

Semieniuk, G., L. Taylor and A. Rezai. (2018). The Inconvenient Truth about Climate Change and the Economy. *Institute for New Economic Thinking*, Commentary.

Mazzucato, M., G. Semieniuk and J. Watson. (2015). What will it take to get us a Green Revolution? *Sussex Energy Policy Brief*.

Presentations

Invited Academic & Policy Presentations

2022. CLIFIRIUM conference, Ecole polytechnique, Paris; Bank of England; EEIST Seminar, University of Exeter; RSERC Workshop at Deutsches Institute für Wirtschaft, Berlin; Foresee Workshop at Deutsches Institut für Wirtschaft, Berlin; Exergy Economics Workshop, Cambridge; Mercator Research Institute on Global Commons and Climate Change, Berlin; Energy Institute, University of Texas at Austin, TEDx Boston.

2021. Global Systems Research Institute, University of Exeter; Climate Policy Lab, Tufts University; 4th Exergy Economics Workshop, University of Cambridge; Department of Environmental Sciences and Policy, Central European University; Rocky Mountain Institute and World Resources Institute workshop; Vienna University of Economics and Business; Rethinking Economics for Africa Festival; Rethinking Economics Science Po Workshop; bp Research Workshop; Wind Energy Fellows Seminar, University of Massachusetts Amherst

2020. IMF Research Seminar; NGFS-INSPIRE workshop hosted by the LSE; e-axes forum; Natural Environment Research Council grant workshop; University of New Hampshire (cancelled); Smart Prosperity Institute, Ottawa; UNCTAD

2019. Symposium on Econophysics and Inequality, Columbia University; Department of Economics, University of Utah; Natural Environment Research Council grant workshop; Department of Economics, Ruhr-University Bochum; PERI, UMass Amherst; Rethinking Economics Conference, Greenwich University, London; Ripples/Innopath Joint H2020 Grant workshop, UCL; Biodiversity Funders Group; C-EENRG, University of Cambridge; UK Ministry of Business, Energy and Industrial Strategy.

2018. School of Earth and Environment, University of Leeds; OECD Roundtable on Sustainable Development; UK Ministry of Business, Energy and Industrial Strategy; Political Economy Workshop, University of Cambridge; UNEP, UN City Copenhagen; 28th Post-Keynesian Economics Society workshop, Goldsmiths Uni London; 3rd Exergy workshop, Instituto Superior Tecnico, Lisbon; Smart Prosperity Institute, Ottawa; Oxford Institute of Energy Studies;.

2017. UK Department for International Development; Economics Department, Kingston Uni-

versity, London.

2016. Oxford Review of Economic Policy Workshop, University of Oxford; Cambridge Econometrics Workshop, Cambridge; SPRU, University of Sussex; HORIZON 2020 workshop, University of Zürich; Grantham Research Institute, London School of Economics

2015. SPRU, University of Sussex

2014. Institute of Ecological Economics Seminar at the Vienna University of Economics and Business

2013. Economics Department, University of Trento

Conference Presentations

2022. ASSA; EAERE; ESEE; SASE; Scenario Modeling Forum; APPAM

2021. FMM Conference, Berlin; ISEE; EAERE; IAEE; Eastern Economic Association Conference

2020. Eastern Economic Association Conference; other conferences cancelled (covid-19)

2019. ESEE

2018. European Economic Association Conference; 4th Energy and Science Workshop, Ecole de Physique, Les Houches

2017. ESEE; Eastern Economic Association Conference

2016. SPRU 50th Anniversary Conference, Brighton; ISEE; IAEE

2014. 2nd Young Bayesian Meeting, Vienna; Annual Conference of DStatG (German Statistical Society); Young Scholars Workshop of INET Plenary Conference, Toronto

2013. Annual Conference of the International Society for Bayesian Analysis; Eastern Economic Association Conference

Service to the Profession

Peer Review

Grants: Economic and Social Research Council (ESRC), European Research Council (ERC), German Leibniz Society, National Science Foundation, Swiss National Science Foundation

Journals: American Political Science Review, Annals of the New York Academy of Sciences, Cambridge Journal of Economics, Canadian Journal of Development Studies, Climatic Change, Ecological Economics, Economia Politica, Economics of Energy & Environmental Policy, Energy Economics, Energy Policy, Entropy, Environmental and Resource Economics, Environmental Research Letters, European Journal of Development Research, European Physical Journal Special Topics, Global Environmental Change, Global Sustainability, Industrial and Corporate Change, Joule, Journal of Economic Surveys, Journal of Environmental Economics and Management, Journal of Evolutionary Economics, Journal of Globalization and Development, Journal of Sustainable Finance and Investment, Nature

Climate Change, Nature Communications, Nature Energy, Nature Sustainability, Renewable and Sustainable Energy Reviews, One Earth, Research Policy, Review of Development Economics, Review of Keynesian Economics, Review of Political Economy, Hacienda Pública Española/Review of Public Economics, Review of Radical Political Economics, Review of Social Economics, Structural Change and Economic Dynamics, Technological Forecasting and Social Change, The Energy Journal, Utilities Policy, Wiley Interdisciplinary Reviews Climate Change, World Development

Books: Macmillan, Oxford University Press, Pearson, Routledge, Springer

Expert reviewer: IPCC Sixth Assessment Report, Working Group 3

Conference Organization

27th European Association of Environmental and Resource Economists Conference, (role: member of the Scientific Programme Committee), Rimini, Italy 2022.

Financing Innovation in Renewable Energy: Who is doing what, where and when? (role: lead organizer), Bloomberg New Energy Finance headquarters, London. 2016

Sustainable Growth in the 21st Century (role: student organizer), New School for Social Research. 2014

The State of Worldly Philosophy student conference (role: lead organizer), New School for Social Research. 2014

Advising

Co-supervisor on 2 honors theses, UMass	since 2022
Member on 1 PhD dissertation committee, University of Utah	2020-22
Member on 4 PhD dissertation committees, UMass	since 2019
External examiner for two PhD theses (UK, Portugal)	2017, 2022
Supervisor on 7 undergraduate research assistantships (EURA), UMass	since 2020
Member on 3 PhD dissertation committees, SOAS	2016-19
Supervisor on 10 Masters & 4 honors theses, SOAS	2016-19

University Service

Departmental software and database representative, SOAS	2018-19
Departmental working paper series coordinator, SOAS	2018-19
Academic supervisor for a STAREBEI student fellowship, European Investment Bank	2018
Organizer of the first departmental 'Teaching Away Day', SOAS	2017
Undergraduate admissions tutor, Department of Economics, SOAS	2016-19