

Blake Shaffer

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Personal

Born: September 27, 1977
Citizenship: Canadian
Languages spoken: English and French
Software proficiency: R, Stata, Matlab, Excel, L^AT_EX

Research Interests

Energy and environmental economics, electricity markets, climate policy

Current Affiliations and Appointments

Adjunct Professor, University of Calgary, Department of Economics, 2019–present
Fulbright Scholar and Postdoctoral Fellow, Stanford University, 2019
Lab Economist, Creative Destruction Lab, 2019–present
C.D. Howe Institute, Energy Policy Fellow, 2016–present

Education

Ph.D. Economics, University of Calgary, 2014–2018
Dissertation: Three Essays on Electricity Demand
Committee: Dr. Trevor Tombe (Supervisor), Dr. Lucija Muehlenbachs, Dr. Ken McKenzie
Examiners: Dr. Max Auffhammer (External), Dr. Pamela Campa (Internal)

M.Phil. Economics, University of Cambridge, 2002–2003
Masters Thesis: Road congestion charging: A preliminary analysis of the London scheme
Supervisor: Dr. Georgina Santos, Examiner: Dr. David Newbery
Graduated *with merit*; achieved Ph.D. continuation level

B.Sc. (Hons) Environmental Sciences, Queen's University, 1995–2000
Honours Thesis: Mine Reclamation in the Canadian Arctic: An Analysis of Policy Alternatives
Graduated with 1st class distinction

Exchange year, University of Melbourne, 1997
Received letter of distinction in Philosophy

Employment (Academic)

Visiting Scholar, Toulouse School of Economics, Fall Term 2018

University of Calgary (Teaching)

Econ 373 (Game Theory), Spring Term 2018

University of Calgary (Teaching Assistant)

Econ 357 (Intermediate Microeconomics), Dr. Lucia Vojtassek, 2017

Econ 707 (PhD Microeconomics), Dr. J.F. Wen, 2016

Econ 373 (Game Theory), Dr. B. Curtis Eaton, 2014

University of Calgary (Research Assistant)

Dr. Rob Oxoby, Research on incentives in team settings, 2015

Dr. Pamela Campa & Dr. Kunio Tsuyuhara, 2015

Dr. Michal Moore (Policy School), Research on renewables and the Alberta power market, 2015

Employment (Professional)

Government of Canada

Consulting Policy Advisor, Ministry of Environment and Climate Change, 2018–

Government of Alberta

Consulting Policy Advisor, Department of Energy, 2016–2018

Expert Advisor, Economic Diversification Advisory Committee, 2017

Expert Advisor, Electricity Transition Governance Committee, 2016

Member, Royalty Review Secretariat, 2015–16

Member, Natural Gas Expert Panel (unpaid service), 2015–16

Transalta Corporation, Calgary, AB

Director, Head of Trading, 2012–14

Senior Power Trader, 2010–11

Barclays Capital, New York, NY

Senior Power Trader, 2007–10

Lehman Brothers, New York, NY

Vice-President, Power and Gas Trading, 2006–07

Powerex Corp. (BC Hydro), Vancouver, BC

Manager of Analytics, 2003–06

Term Power Trader, 2001–02

Spot Power Trader and Analyst, 1999–01

Grants and Awards

EEPRN Research Grant (\$37,055), Principal Investigator (co-investigator Dr. Nic Rivers), 2019–20
 Fulbright Scholar, Canada-US Fulbright Program, Stanford University, 2019
 University of Calgary Graduate Student Teaching Award, 2018
 Victor Yang Song Graduate Scholarship in Teaching Excellence, 2018
 University of Calgary Faculty of Graduate Studies Travel Award, 2018
 John D. Petrie, QC Memorial Graduate Scholarship, 2017–19
 James D. Gaisford Research Prize (Top 2nd year PhD research paper), 2017
 Queen Elizabeth II Scholarship (SSHRC and Vanier National Finalist), 2015–17
 Talisman Graduate Scholarship in Energy and Related Studies, 2015–16
 Top Macroeconomics Prize, 1st year PhD, 2015
 Economics Society of Calgary Scholarship, 2014
 Cambridge Commonwealth Trust Graduate Scholarship, 2003
 Carl Reinhardt Scholarship in Geological Sciences, 1997
 Morley E. Wilson Scholarship in Geological Sciences, 1996
 Queen's Applied Science (Engineering) Dean's List, 1996
 Queen's Anniversary Entrance Scholarship, 1995

Publications

Journal Articles

Location Matters: Daylight saving time and electricity use, 2019 [Accepted, *Canadian Journal of Economics*]

ABSTRACT: The primary rationale for daylight saving time (DST) has long been energy savings. Whether it achieves this goal, however, remains a subject of debate. Recent studies, examining only one location at a time, have shown DST to increase, decrease or leave overall energy use unchanged. Rather than concluding the effect is ambiguous, this paper is the first to test for heterogeneous regional effects based on differences in (natural) sun times and (societal) waking hours. Using a rich hourly data set and quasi-experimental methods applied across Canadian provinces, this paper rationalizes the differing results, finding region-specific effects consistent with differences in sun times and waking hours. DST increases electricity use in regions with late sunrises and early waking hours.

Media coverage: *National Post, Macleans, CBC, Global, 660 News*

Preliminary results of the London congestion charging scheme (with Georgina Santos), 2004, *Public Works, Management and Policy* 9(20), 164–181

ABSTRACT: This paper is the first to empirically estimate the effect of the London Congestion Charging Scheme. Preliminary results show a significant response to the £5 (\$8) charge. Congestion over the first year decreased by 30 per cent, overall traffic levels within the charging zone fell by 16 per cent, speeds for car travel increased by over 20 per cent and bus travel became more reliable. Elasticities of demand for trips by car with respect to generalized costs are estimated to be between ?1.32 and ?2.10. The average marginal congestion cost within the central zone is estimated at £1.65 per veh-km (approximately \$2.58 per veh-km). The net economic benefits of the Scheme for the first year were £50 million (\$78 million) and the net revenues, £68 million (\$106 million). Net revenues are being mainly used to improve public transport.

This paper has been cited 140 times (Google Scholar, as of Jan 2019) and was referenced by the City of Stockholm as part of their justification for implementing their own congestion charging scheme.

Working Papers

Rational, Lazy or Confused? Evidence of misperception in consumer responsiveness to nonlinear prices, 2018 [Revisions requested, *AEJ: Economic Policy*] ***JOB MARKET PAPER***

ABSTRACT: When faced with nonlinear prices, do consumers respond to marginal or average price? Or, as this paper explores, do they simply misunderstand nonlinear prices? Using a rich dataset that exploits a natural experiment of electricity consumers in British Columbia, Canada, this paper finds evidence of marginal cost responsiveness in contrast to recent literature. A deeper examination, however, suggests this result is driven by a small share of households who misperceive the tariff. This finding highlights the important role misperception can play in consumer responsiveness to nonlinear pricing and serves as a methodological caution to consider heterogeneous treatment effects.

Stretching the duck: The effect of climate change on the level and timing of future electricity demand, 2018 (with Nic Rivers) [Under review]

ABSTRACT: Rising temperature due to climate change is expected to alter the demand for heating, cooling and other electricity services. This paper examines the marginal effect of rising temperature on the level and timing of future electricity demand. We find the aggregate effect on the level of demand is small due to savings from reduced heating demand in a cold country, such as Canada, largely offsetting increased summer cooling demand. This finding holds even when incorporating adaptation in the form of increased air conditioner adoption. However, it masks important regional heterogeneity and significant changes to the timing of electricity demand. Seasonal peaks are projected to shift from winter to summer and the diurnal range of hourly demand expands. The latter is of particular importance, exacerbating changes coming from the supply side where growing variable renewable energy shares are increasing the need for flexibility in managing diurnal variation.

Policy Research Papers

All's Well that Ends Well: Addressing End-of-Life Liabilities for Oil and Gas Wells (with Ben Dachis and Vincent Thivierge), Sep 2017, *C.D. Howe Research Paper*, no. 492

The Challenge of Integrating Renewable Generation in the Alberta Electricity Market (with G. Kent Fellows and Michal C. Moore), Sep 2016, *University of Calgary, School of Public Policy Summary Paper*, 9(25)

The Political Economy of Free Allocations (with Mark Purdon and David Houle), Apr 2016, *Ecofiscal Commission Position Paper Series on Carbon Pricing Revenue Recycling*

Lifting the Hood on the Alberta Royalty Review, Feb 2016, *University of Calgary, School of Public Policy Briefing Paper*, 9(7)

Policy Blogs

You get what you pay for: Considering cost and value in renewables procurement, Dec 18, 2018, *C.D. Howe Intelligence Memo*

To change or not to change? The daylight saving debate won't die, Mar 6, 2018, *C.D. Howe Intelligence Memo*

Alberta's renewable auction sets a new low for prices, but tweaks are needed in the future, Dec 14, 2017, *C.D. Howe Intelligence Memo*

What's the Real Deal with Keystone XL?, Nov 21, 2017, *C.D. Howe Intelligence Memo*

Smooth transitions: Shifting from cap-and-trade to a carbon tax (with Trevor Tombe and Dale Beugin), Nov 15, 2017, *Ecofiscal Commission*

On Site C: Dam(ned) if you do, dam(ned) if you don't, Nov 3, 2017, *C.D. Howe Intelligence Memo*

An Ontario surprise: A good idea about electricity pricing, Sep 10, 2017, *C.D. Howe Intelligence Memo*

Does Daylight Saving Time Reduce Energy Consumption (with Nic Rivers), Part 1 & Part 2, Mar 7 & 8, 2017, *C.D. Howe Intelligence Memo*

Reconciling pipelines with Canada's climate goals (with Trevor Tombe), Dec 8, 2016, *C.D. Howe Intelligence Memo*

What does a capacity market mean for Alberta? Nov 24, 2016, *C.D. Howe Intelligence Memo*

Popular Media

Redwater decision is progress, but environmental liabilities run deep Feb 4, 2019, *Globeandmail*

Canada's new large-emitter pricing system might defeat the carbon tax's own purpose Nov 5, 2018, *Macleans*

Will LNG Canada increase greenhouse gas emissions? Oct 3, 2018, *Macleans*

On Policy Durability, Aug 13, 2018, *The Hill Times*

Why John Horgan deserves credit for going ahead with Site C, Dec 11, 2017, *Macleans*

Why the B.C. Liberals and NDP are both wrong about bridge tolls, Apr 10, 2017, *Macleans*

Saskatchewan swallows the fiscal pill Alberta refuses (with Trevor Tombe), Mar 24, 2017, *Macleans*

Paying for pipelines: How consumers can end up footing the bill, Feb 9, 2017, *CBC*

Making sense of energy efficiency programs (with Sara Hastings-Simon and Trevor Tombe), Jan 31, 2017, *Macleans*

Alberta Electricity: There's something happening here, what it is ain't exactly clear, Nov 27, 2016, *Calgary Herald*

Carbon tax: The real debate is about the revenue, Oct 15, 2016, *Globeandmail*

Making sense of a \$15 minimum wage in Alberta (with Trevor Tombe), Jul 1, 2016, *Macleans*

Alberta's climate plan requires serious debate, May 27, 2016, *Globeandmail*

Making sense of a provincial debt downgrades: Why Canadians in all regions should watch mounting provincial debt levels with concern (with Trevor Tombe), Dec 22, 2015, *Macleans*

Proceedings

Invited Conference Presentations and Seminars

2019: Canadian Economics Association 2019 Annual Conference, Banff (June); Pacific Institute for the Mathematical Sciences (PIMS) Workshop on Mathematical Sciences and Clean Energy Applications, UBC (May); Berkeley Energy Institute, University of California at Berkeley (February)

2018: Toulouse School of Economics, Environmental Economics Seminar (September); World Congress of Environmental and Resource Economists, Gothenburg, Sweden (June); Canadian Economics Association 2018 Annual Conference, Montreal (June)

2017: Canadian Resource and Environmental Economics 2017 Annual Meeting, London (September); Toulouse School of Economics, 11th Conference on the Economics of Energy and Climate Change, Toulouse (June)

2016: Canadian Resource and Environmental Economics 2016 Annual Meeting, Banff (October)

Conference Organization

The potential for energy storage in Alberta: A roundtable, School of Public Policy, University of Calgary, March 2019. Co-organized a roundtable of expert international panelists and attendees on the potential for energy storage in evolving electricity markets.

Electricity Journalism Workshop, Calgary, May 2018. Co-organized a workshop for journalists to better understand the fundamentals of electricity markets and policy with C.D. Howe Institute, Canada West Foundation and the Pembina Institute.

Integrating renewables into the Alberta electricity market: A roundtable, School of Public Policy, University of Calgary, Sep 2015. Co-organized a roundtable of 40 stakeholders and experts to discuss policy and operational issues related to integrating renewables into the Alberta electricity market.

Invited Workshops

Invited speaker at the *1st Annual Innovation Program of ReDeveLoP, an NSERC-funded program under the CREATE Initiative*, in the responsible development of low-permeability hydrocarbon resources, April 30 - May 4, 2018, University of Calgary, Canada.

An Uncommon Dialogue: North American Hydropower, Stanford Steyer-Taylor Centre for Energy Policy and Finance, Stanford Woods Institute for the Environment, Stanford University, Palo Alto, March 2018.

Alberta Energy Challenge: An international case competition focussing on the energy sector, University of Alberta, Edmonton, September 2017 (guest speaker).

Berkeley Summer School in Environmental and Energy Economics, University of California, Berkeley, August 2017.

IASS Expert workshop on coal power, Institute for Advanced Sustainability Studies, Potsdam, Germany, November 2016.

Summer Institute on Field Experiments, University of Chicago, July 2015. Selected as one of 20 global scholars to participate in this inaugural workshop organized by Dr. John List.

Memberships

Canadian Economics Association (CEA), Canadian Resource and Environmental Economics Study Group (CREE), American Economics Association (AEA), Association of Environmental and Resource Economics (AERE), International Association for Energy Economics (IAEE)

Referee Service

American Economic Journal: Economic Policy; Journal of the European Economic Association; Resource and Energy Economics; Energy Journal; University of Calgary School of Public Policy; C.D. Howe Institute; Ecofiscal Commission

References

Dr. Trevor Tombe (PhD supervisor)
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Dr. Georgina Santos (Masters supervisor)
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