Abena Boafoa Darkwah

Contact Information

Department of Economics
University of Calgary
2500 University Dr. N.W
Calgary, AB, T2N 1N4, Canada

Phone: +1 (587) 892-5435
E-mail: abena.darkwah@ucalgary.ca

Research Interests

Energy Economics, Environmental Economics, Electricity Markets, Public Policy

Education

University of Calgary, Calgary, Alberta Canada

Ph.D. Candidate, Economics, August 2021

MA. Economics, August 2020

Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana

B.A., Economics, October 2015

References

Dr. Lucija Muehlenbachs
Professor (Supervisor)
Department of Economics
University of Calgary
Calgary, AB, Canada
lmuehlen@ucalgary.ca

Dr. Blake Shaffer
Associate Professor
Department of Economics
University of Calgary
Calgary, AB, Canada
blake.shaffer@gmail.com

Dr. Erica Myers
Associate Professor
Department of Economics
University of Calgary
Calgary, AB, Canada
erica.myers@ucalgary.ca

Honors and Awards

Transformative Talent Internship Scholarship, University of Calgary (2026)

Faculty of Graduate Studies Doctoral Scholarship, University of Calgary (2024)

Alberta Graduate Excellence Scholarship (2023)

Microeconomics Prize for the highest average in ECON 707 and ECON 757, awarded by the Department of Economics, University of Calgary (2022)

International Graduate Tuition Award (2021-Present)

Dean's Excellence Award, Faculty of Social Sciences, KNUST (2019)

Second-best 4th-year student in BA Economics, awarded by the Department of Economics, KNUST (2019)

Most Outstanding Executive Officer, Economics Student Association, KNUST (2018)

Research Experience

University of Calgary, Calgary, Alberta Canada

Research Assistant for Professor Lucija Muehlenbachs **September 2024 - February 2026**

Research Assistant for Associate Professor Sara Hastings-Simon **October 2023 - April 2025**

Research Assistant for Professor Scott. M Taylor **January 2023 - June 2023**

Teaching Experience

University of Calgary, Calgary, Alberta Canada

Graduate Teaching Assistant **August, 2021 - present**

- Macroeconomics (Econ 203), Microeconomics (Econ 201), Computer Applications in Economics (Econ 311), Environmental Economics (ECON 487), Energy Economics (ECON 427/627), Electricity Market (ECON 329).

Guest Lecturer

- Environmental Economics (ECON 487) **January 28, Febuary 14, March 14 2025**
- Energy Economics (ECON 427/627) **October 3, 2024**

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Teaching Assistant **August, 2019 - June 2020**

Publications

"Resource Revenue Sharing Agreements" with Lucija Muehlenbachs & Laurel Wheeler, **Forthcoming** in the *Canadian Public Policy/ Analyse de Politiques*

Abstract: A growing number of First Nations across Canada are entering into agreements with provincial governments to share revenues from natural resource extraction within their traditional territories. Yet, little guidance exists on the design of these Resource Revenue-Sharing Agreements (RRSAs). In this paper, we examine publicly available RRSAs to summarize their common components. We outline the decision points involved in structuring an RRSA and discuss potential benefits and drawbacks for First Nations considering entry.

Darkwah, A.B., Shaffer, B. and Hastings-Simon, S., 2026. Layering incentives: The impact of local top-ups on solar adoption and welfare. Energy Policy, 217, p.115427.

Abstract: This paper investigates the effect of a local "top-up" to an existing solar rebate program in Alberta. Specifically, we examine whether providing additional financial incentives at the local level increases adoption rates and generates meaningful public welfare benefits. Using a difference-in-difference framework, we find that the incidence of the top-up is fully passed through to consumers, resulting in a 72% increase in solar installation rates. Our welfare analysis, using the Marginal Value of Public Funds (MVPF), also reveals that the societal benefits of the top-up exceed its costs, yielding a favorable return on public investment. These findings suggest that local top-ups can be an effective tool for increasing renewable energy adoption and enhancing public welfare, offering important insights for policymakers.

Papers in preparation

"Electricity Offer Behavior and the Effectiveness of Carbon Policy." [**Job Market Paper**]

Abstract: This paper examines the effectiveness of Canada's first greenhouse gas pricing policy, focusing on the role of benchmark design and electricity offer behavior in shaping emissions outcomes. Exploiting the transition from generator-specific to uniform emissions benchmarks, I document a decline in coal generation relative to gas generation following the reform. Using a structural dispatch model, I find that the uniform benchmark produces lower emissions than a revenue-equivalent generator-specific benchmark. However, this advantage is substantially reduced when observed above-cost electricity offer premiums are incorporated into the model. Reduced-form evidence further shows that elevated gas offer premiums among large firms are associated with a higher coal share and lower gas generation following the reform. Structural counterfactuals indicate that observed offer premiums reduce the simulated emissions advantage of the uniform benchmark by approximately 64%, primarily by shifting generation from gas toward coal. These findings highlight how electricity market structure and offer behavior can impede or slow the decarbonization of the electricity sector.

"Technology and Energy Use in the Formal Sector in Developing Countries: Implications from informal competition" with John Bosco Dramani and Kwame Ansere Ofori-Mensah.

Conference Presentations

Climate Economics Pipeline Workshop, Harvard Kennedy School, Cambridge, Massachusetts, June 2024.

Electricity Camp in the Rockies, Banff Centre, Alberta, May 2026.

Professional Experience

Kaskada Carbon, Calgary, Alberta, Canada

Associate **June, 2026 - Present**

Legacy Capital Savings and Loans, Accra, Ghana

Financial Intern **June, 2018 – August, 2018**

COMPUTER SKILLS

- Statistical Packages: Python, Stata, R
- Applications: LaTeX, Microsoft Word, PowerPoint, Excel