

IVEY ENERGY POLICY AND MANAGEMENT CENTRE



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DIRECTOR'S MESSAGE



GUY HOLBURN, DIRECTOR | Ivey Energy Policy and Management Centre, Ivey Business School | Professor and Suncor Chair in Energy Policy

Throughout 2019, the Ivey Energy Policy and Management Centre continued to provide an informed and independent perspective on Canadian energy sector development and policy through its research, teaching, and outreach programs.

The Centre was able to expand its contributions to policy discourse through several new initiatives. Building on successful Annual Energy Leaders Roundtables in Ontario and Alberta, led by the Council for Clean & Reliable Energy, the Centre supported the first such Roundtable organized in British Columbia. Two former premiers participated in panel conversations, as did leaders from industry, academia, government, the non-profit sector, and Indigenous communities. Forums like these offer a valuable opportunity for diverse stakeholders to share and discuss perspectives on paths forward for the country's energy industry.

The Centre also launched a new survey that will assess energy executives' opinions about the investment climate for the oil, gas, electricity, and pipeline sectors. The objectives of the survey are to develop an evidence-based analysis of economic, political, and regulatory factors affecting investment, to compare the investment environment across jurisdictions, and to track changes over time. Data from the survey, which will be conducted annually, will lead to a report due for release in 2020. In addition to this survey project, the Centre published several new Policy Briefs on corporate governance of Crown corporations, residential electricity conservation programs, and wholesale electricity pricing.

This year, the Centre welcomed a number of new Fellows who bring expertise and experience in energy topics, and who engage in Centre activities and events. New Fellows include: Steve Baker, Director of the Independent Electricity System Operator (IESO) and former President of Union Gas; Radoslav Dimitrov, Associate Professor of Political Science at Western University; Chris Guillon, MBA '06, Co-Founder of StormFisher Environmental; Martha Hall Findlay, President and CEO of the Canada West Foundation; David Hay, Director of EPCOR and Hydro One; Matt Jamieson, CEO of the Six Nations of the Grand River Development Corporation; and Karen Taylor, Vice Chair of the Council for Clean & Reliable Energy. The full list of Fellows is on page 17.

We are generously supported by Ivey alumnus, Ted Kernaghan, HBA '65, and the members of the Ivey Energy Consortium: ATCO, Bruce Power, OMERS, Power Workers' Union, Suncor Energy Foundation, and TC Energy. I am pleased to welcome Hydro One as the Consortium's newest member, and extend thanks to all our supporters for their trust and confidence in the work that we do.

I am especially grateful for the efforts of the whole Ivey Energy Policy and Management Centre team — faculty and staff, Fellows, researchers, and Advisory Board members — who are vital to the Centre's accomplishments and contributions.

RESEARCH



FACULTY INVOLVEMENT IN THE MUSKRAT FALLS INQUIRY

Ivey faculty have provided expert input over the last two years in the Muskrat Falls Inquiry, one of Canada's most extensive government investigations into management and oversight of a mega energy project.

The Inquiry was convened by the Government of Newfoundland and Labrador after the cost of the 824MW Muskrat Falls hydroelectric project, located on Labrador's lower Churchill River, almost doubled from its initial estimate of \$7.2 billion to \$12.7 billion, running two years behind schedule. To pay for the project, consumer electricity rates in the province would need to approximately double at the time of commissioning in 2020 in the absence of government subsidy or long-term rate smoothing. The Inquiry, which began in early 2018, is designed to uncover why the project was approved, why the cost and construction schedule escalated, and what can be learned for future megaproject oversight.

The Inquiry has called on a large number of witnesses from Nalcor, the government-owned utility that proposed and built Muskrat Falls, third parties, and from government departments, who have testified about their role in the project's development.

The Inquiry has also called on a number of independent experts to provide their opinions, including Professors Guy Holburn and Brandon Schaufele, two energy economists at Ivey. Holburn wrote a report and testified in 2018 on the impact of the government's early decision to exempt the Muskrat Falls project from full regulatory review and approval by the Public Utilities Board, an independent agency that has a legislated mandate to ensure that electricity rates are based on the lowest cost possible consistent with reliable service. In the second stage of the Inquiry in 2019, Holburn testified on recommended standards of corporate governance of Crown corporations, a key part of the Inquiry's examination of governance structures and practices at Nalcor.

Schaufele participated on a forward-looking panel discussing the repercussions for Newfoundland and Labrador once the Muskrat Falls project is on line. In particular, Schaufele presented economic analysis on the implications of prospective electricity rate mitigation (i.e., keeping electricity prices at a low level) and the potential unintended consequences of this policy for the province's budget, low-income households, and the province's future economic growth prospects.

THE INVESTMENT CLIMATE FOR THE ENERGY SECTOR IN CANADA



“MY MOST VALUABLE TAKEAWAY FROM THIS PROJECT HAS BEEN LEARNING HOW TO LOOK AT ENERGY ISSUES FROM MULTIPLE PERSPECTIVES”

Jerry Zhou

The energy sector — namely, electricity, gas, oil, and pipelines — is an important contributor to the long-term growth of the Canadian economy. Consequently, efficient performance of our economy depends on timely investment in energy infrastructure. However, energy infrastructure projects are inherently risky: they often take years to develop and have few alternative uses. Investors' perceptions of economic, political, and regulatory factors affect long-term investment decisions.

From a public policy perspective, it is important to understand how these risk factors affect investment in energy infrastructure in order to develop evidence-based policies that support investment in all types of energy technologies.

The Ivey Energy Policy and Management Centre is conducting its first annual survey on the investment climate for the energy sector in Canada. The survey seeks the views of executives on critical elements affecting investment in Canada's electricity, gas, oil, and pipeline industries. The intent of the study is to provide an independent, quantitative assessment of the factors affecting capital investment in Canada and to compare investment conditions across jurisdictions and over time.

The survey is being conducted by Centre faculty and HBA and BESC dual-degree student Jerry Zhou, who is working in the Energy Centre's internship program.

“My most valuable takeaway from this project has been learning how to look at energy issues from multiple perspectives,” says Zhou. “I have developed a more holistic view of these complex issues, which is immensely valuable to my studies in both business and engineering.”

The researchers will aggregate the survey results to create a report scheduled for release in 2020.

RECENT FACULTY RESEARCH GRANTS AND AWARDS

Adam Fremeth, HBA '00

- Fulbright Scholar Award, 2018-2019
- Social Sciences and Humanities Research Council grant, Principal Investigator, 2014-2018

Guy Holburn

- Erskine Fellowship, University of Canterbury, New Zealand, 2018
- Ontario Ministry of Energy, Principal Investigator, 2017-2018
- Natural Resources Canada grant, Principal Investigator, 2015-2016

Brandon Schaufele

- Environment Canada Economics and Policy Research Network, Collaborator, 2012-2017

READ MORE: GO.IVEY.CA/GRANTSANDAWARDS



INTERNATIONAL ASSOCIATION OF ENERGY ECONOMICS ENERGY FORUM SPECIAL ISSUE

EDITED BY LAURA MCLEOD AND BRIAN RIVARD, AUGUST 2019 This Special Issue included 17 articles from among 262 papers presented at the IAEE conference in Montreal, Canada from May 29-June 1. In selecting the articles, the editors represented the diversity of energy topics discussed in the 60 concurrent sessions held during the conference.

READ IT HERE: GO.IVEY.CA/ENERGYFORUM

FACULTY RESEARCH PRESENTATIONS 2019

- University of Montreal, Montreal, Que.
- Canadian Resource and Environmental Economics Association Annual Meeting, Charlottetown, P.E.I.
- Strategic Management Society Annual Conference, Minneapolis, Minn.
- CCRE Annual Energy Leaders Roundtable, Penticton, B.C.
- WISE Energy Day, Waterloo Institute for Sustainable Energy, Waterloo, Ont.
- Muskrat Falls Inquiry, St. John's, N.L.
- Canadian Economics Association Annual Meeting, Banff, Alta.
- Proximo Canadian Power & Renewables Exchange, Toronto, Ont.
- Industry Studies Association Annual Conference, Nashville, Tenn.
- Darla Moore School of Business, University of South Carolina, Columbia, S.C.
- CCRE Annual Energy Leaders Roundtable, Orangeville, Ont.
- Indiana University, Bloomington, Ind.
- Muskrat Falls Inquiry, Happy Valley-Goose Bay, N.L.
- Bold Macroeconomic Moves, Toronto, Ont.
- Harvard Business School, Cambridge, Mass.

ENERGY CENTRE POLICY BRIEFS

ANALYSIS AND INSIGHT INTO ENERGY ISSUES



DON'T LEAVE ME STRANDED: WHAT TO DO WITH ONTARIO'S GLOBAL ADJUSTMENT?

This Policy Brief examines the efficiency and equity effects of the Industrial Conservation Initiative (ICI), Ontario's electricity pricing scheme for industrial consumers, which provides strong price incentives for large consumers to reduce their electricity usage during system peak demand hours. The ICI effectively redistributes system-wide fixed generation costs between different classes of consumers by changing the amount of the monthly "Global Adjustment" (GA) fee charged to industrial, commercial, and residential consumers.

The GA is an accounting mechanism through which the fixed costs to build and maintain generation assets in the province and to deliver Ontario's conservation programs are recovered from Ontario electricity consumers. It is calculated as the difference between payments made to generators at the wholesale market price and payments made through regulation or contract that differ from the market price. The GA was established in 2005 as a means to attract private investment in new generation capacity, and to offer Ontario consumers price stability. Eventually, it became the means for the recovery of costs incurred to achieve various social policy objectives, including promoting environmental and health benefits and developing "green" industries and jobs. The GA has since become the largest component of the average consumer's electricity cost, representing between 45 to 60 per cent of a typical electricity bill.

The ICI has shifted the allocation of fixed generation costs (in GA fees) from industrial to residential and commercial customer classes. Large electricity consumers are charged GA amounts on the basis of their share of total system demand during the five highest peak hours of the year. Smaller consumers (generally, residential and commercial customers) are charged the GA as a monthly fee based on the number of kilowatt-hours of electricity that they consumed in the month. The ICI has incentivized some industrial consumers to substantially reduce their electricity demand during peak demand periods, thereby lowering their GA fees. In some cases, industrial consumers invested in distributed energy solutions such as storage or behind-the-meter generation to bypass the cost of consuming grid-supplied electricity. However, this bypass can lead to an inefficient use of the province's generation, transmission, and distribution assets; an increased risk of these assets eventually becoming stranded; and higher electricity bills for residential and commercial consumers who bear a higher share of GA costs.

The Policy Brief recommends decomposing the GA into three components and collecting each through separate charges designed to more accurately reflect the causes and benefits of the costs, which would reduce the potential for inefficient adoption of distributed energy solutions and higher system-wide future electricity costs.

READ IT HERE: [GO.IVEY.CA/GLOBALADJUSTMENT](https://go.ivey.ca/globaladjustment)



WHAT DO WE KNOW ABOUT HOUSEHOLD ENERGY CONSERVATION PROGRAMS? EVIDENCE FROM MEDICINE HAT

Investments in energy efficiency are believed to be a key channel for reducing energy consumption and improving environmental outcomes. To this end, recent technological innovations have produced more efficient appliances, improving home heating and cooling. These innovations have also prompted governments to design programs aimed at financially assisting households to offset some of the upfront costs of buying new, energy-efficient appliances or undertaking building retrofits.

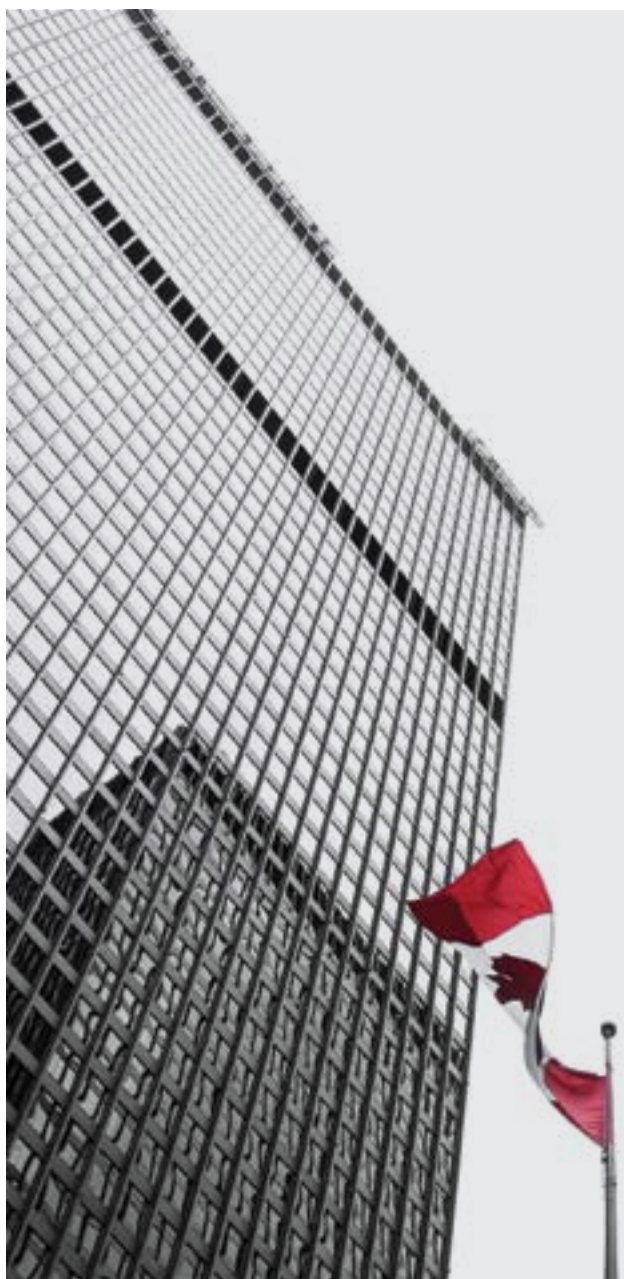
Publicly funded energy efficiency initiatives are often pitched as “win-win” policies. Household investments in energy efficiency — for example, purchasing more efficient appliances or adding insulation to attics — can be quite costly compared to their non-energy-efficient alternatives. However, the payoff (or win) for the household is that the improvement in energy efficiency reduces lifetime energy consumption by an amount that is greater than the initial outlay or efficiency-based price differential. There is also a social benefit from energy efficiency. Generation of electricity and combustion of natural gas produces environmental externalities such as carbon dioxide emissions and other local pollutants. As total energy consumption declines with the help of government involvement, environmental quality and human health improve. In addition to their social costs, climate change and local air pollution have real economic costs that are borne by citizens and governments, giving both groups an incentive to improve their energy use profiles.

The win-win characterization of energy efficiency programs appears persuasive. Yet, until recently, surprisingly little was known about the actual effectiveness of utility-based conservation and efficiency programs. This Policy Brief evaluates a program designed to reduce electricity and natural gas consumption in the City of Medicine Hat, Alberta. This initiative, known as HAT Smart, provided households with rebates following the purchase of more efficient appliances and other household improvements. Statistical results based on several years of data demonstrate that targeted energy efficiency subsidies generated very little energy conservation (program funding crowded out private investment in conservation at a rate of one-to-one). Still, because the program was designed to be revenue neutral, the analysis also showed that the government’s policy imposed virtually no net economic costs on the city’s residents. The conclusions from this study are consistent with a growing literature suggesting that publicly funded energy efficiency programs may deliver fewer benefits than initially promised.

READ IT HERE: [GO.IVEY.CA/CONSERVATIONPROGRAMS](https://go.ivey.ca/conservationprograms)

BEST PRACTICE PRINCIPLES OF CORPORATE GOVERNANCE FOR CROWN CORPORATIONS

This report provides an overview of best practice principles for corporate governance arrangements of Crown corporations, government-owned enterprises with mixed commercial and public policy objectives. Crown corporations play an important role in Canada's economy, accounting for approximately 3.4 per cent of the national GDP, employing an estimated 195,000 workers, and controlling net assets valued at more than \$220 billion. There are more than 40 federal Crown corporations and 180 provincial Crown corporations operating in a broad range of sectors from economic development to transportation, culture and media, utilities, and power generation.



Unlike government departments, Crown corporations are designed to operate at greater arm's length from government since their objectives are considered to be best implemented through a corporate model, which affords more autonomy and flexibility in operations and strategic planning. At the same time, as public sector organizations, Crown corporations are accountable to the government and required to comply with legislated mandates, regulations, and policies.

This tension between organizational independence and accountability to government has led to a long-standing debate on the appropriate roles and purposes of Crown corporations in modern economies, the rationale for government ownership, and the need for governance arrangements that satisfactorily balance commercial and policy goals. As the economic importance of Crown corporations has grown over time, questions have been raised about the ability of governments to effectively control and monitor them, leading to periodic pressures for reform of ownership and governance structures. At the federal level, the government amended the *Financial Administration Act* in 1984 to strengthen the accountability and control framework for Crown corporations and to clarify the responsibilities of shareholders and executives. Provincial governments have also instituted periodic reviews to improve governance of Crown organizations and other government bodies, and provincial Auditors General regularly report publicly on the status of governance arrangements for Crown corporations within their jurisdictions. As such, much has been written about how governments can strengthen these arrangements in order to improve Crown corporations' organizational performance.

The report synthesizes the central insights from more than 30 studies and reports on Crown corporation governance, emphasizing the crucial role that expert boards of directors play in overseeing management and reporting to government. Best practice principles are summarized for six governance dimensions: corporate purpose and mandate; board selection and appointment processes; board functioning and independence; board committee structures and responsibilities; board relationship with the corporation's executive; and monitoring and reporting.

READ IT HERE: [GO.IVEY.CA/CROWNCORPORATIONS](https://go.ivey.ca/crowncorporations)

TEACHING

LAUNCHING A CLEAN ENERGY STARTUP



 NOVEMBER 11, 2019

Chris Guillon, MBA '06, Vice President, Finance and Co-Founder of StormFisher Environmental, spoke to students in the HBA *Energy and Environment* course to debrief a case study on the early years of his company, which owns one of the largest biogas plants in North America.

StormFisher Environmental was founded in 2008, at a time when governments in many countries were implementing energy policies designed to stimulate private investment in renewable energy production and supply chains. The founders of StormFisher Environmental were successful in raising private equity capital from a Boston-based fund seeking to enter the renewable energy sector in Canada and the United States. A key challenge for entrepreneurs in the energy industry, however, is to carefully assess the various technological, operational, and policy risk factors and to proactively develop risk management strategies. During the class, Guillon discussed the importance of systematically analyzing future risks as well as current opportunities in startup ventures, and his experience in building and managing StormFisher Environmental over the last decade.

READ MORE: [GO.IVEY.CA/CHRISGUILLON](https://go.ivey.ca/chrisguillon)



NICOLE MARTIN: DEBT RATINGS IN COMMODITY MARKETS

 OCTOBER 28, 2019

Nicole Martin, formerly of S&P Global Ratings, discussed with HBA students how debt markets view the Canadian oil and gas industry amidst commodity price volatility. In particular, she highlighted the implications of this volatility for Canadian oil and gas firms that straddle investment grade and high-yield ratings.

READ MORE: GO.IVEY.CA/NICOLEMARTIN



SAMANTHA STUART: CORPORATE STRATEGY AT TC ENERGY

 OCTOBER 10, 2019

Samantha Stuart, Vice President of Strategy and Corporate Development at TC Energy, addressed 350 HBA students in a plenary session that delved into corporate strategy in the pipeline sector. She emphasized the importance of long-term scenario planning as energy markets evolve.

READ MORE: GO.IVEY.CA/SAMANTHASTUART



ANDREW LEACH: PUTTING A CARBON TAX INTO ACTION

 OCTOBER 3, 2019

Professor Andrew Leach of the University of Alberta spoke to HBA students about the theory and practicalities of implementing a market-based carbon policy in Canada.

READ MORE: GO.IVEY.CA/ANDREWLEACH



JEFF TONKEN: WHAT DOES ENERGY MEAN TO CANADA?


 OCTOBER 1, 2019

Jeff Tonken, Chair of the Canadian Association of Petroleum Producers and President and CEO at Birchcliff Energy, spoke to HBA and MBA students about Canada's energy sources, as well as clean oil and gas production.

READ MORE: GO.IVEY.CA/JEFFTONKEN



PODCAST WITH **GOLDY HYDER**, PRESIDENT AND CEO OF THE BUSINESS COUNCIL OF CANADA

 JULY 23, 2019

Daniela Barros and Constantin Robin, Ivey MBA '20 candidates and leaders of the MBA Energy and Resources Club, sat down with Goldy Hyder, President and CEO of the Business Council of Canada, to discuss Canada's energy sector ahead of the federal election.

READ MORE: GO.IVEY.CA/GOLDYHYDER

EXPLORE ALL PODCASTS: GO.IVEY.CA/ENERGYPODCASTS



HBA STUDENT WINS **TC ENERGY SCHOLARSHIP**

 SEPTEMBER 2019

Landon Tulk, HBA '20 candidate, was awarded the TC Energy Community Leaders Scholarship in September 2019. The scholarship is offered to students pursuing post-secondary education who demonstrate a strong commitment to their communities through volunteer work, community participation, leadership, and other activities. In addition to attending Ivey, Tulk is active in campus leadership and runs a full-service marketing firm.

READ MORE: GO.IVEY.CA/TCENERGYSCHOLARSHIP

IVEY ENERGY POLICY AND MANAGEMENT CENTRE

BY THE NUMBERS, 2012-2019

\$4.2 million

Donations

4,600

Newsletter subscribers

65

Events

21

Policy Briefs

6,800

Attendees at events

\$1.8 MILLION

Grants and awards

OUTREACH

3RD ANNUAL WORKSHOP ON THE ECONOMICS OF ELECTRICITY POLICY AND MARKETS



OCTOBER 22, 2019, TORONTO

The Centre hosted its annual electricity policy conference in Toronto with four panel sessions involving 17 speakers, and keynote presentations from Professor Meredith Fowle, University of California, Berkeley, and Andrew Ott, former President and CEO of PJM Interconnection LLC. The theme of the workshop was “Lessons learned from 20 years of electricity sector restructuring: What will be the impact of distributed energy technologies?” The event was attended by more than 65 energy experts from across Canada and the United States.

READ MORE: GO.IVEY.CA/ELECTRICITYWORKSHOP




ANDREW OTT, former President and CEO, PJM Interconnection LLC



FRANK WOLAK, Professor and Director of the Program on Energy and Sustainable Development at Stanford University



CCRE ENERGY LEADERS ROUNDTABLE


 OCTOBER 1-3, 2019, PENTICTON

The Energy Centre supported the first Energy Leaders Roundtable held in British Columbia, organized by the Council for Clean & Reliable Energy. Keynote addresses were given by the Honourable Brian Tobin, Vice Chair, BMO Financial Group and former premier of Newfoundland and Labrador; Greg Lyle, President, Innovative Research Group; and James Scongack, EMBA '17, Executive Vice-President, Corporate Affairs and Operational Services, Bruce Power. Mike Harcourt, former premier of British Columbia and Mayor of Vancouver, moderated a panel on politics and the energy sector. Panel topics included carbon pricing, First Nations and infrastructure development, and the regulatory environment for the energy sector.

READ MORE: GO.IVEY.CA/ENERGYLEADERSPENTICTON



REGULATORY REFORM IN ONTARIO'S ENERGY SECTOR


 MAY 21, 2019, TORONTO

This expert panel event was centred on the March 2019 report from the Ontario Energy Board Modernization Review Panel. The Chair of the Panel, Richard Dicerni, delivered a keynote address, followed by a panel discussion moderated by Professor Guy Holburn. Panellists included Cynthia Chaplin, Executive Director of CAMPUT; Vinay Sharma, CEO of London Hydro; and Karen Taylor, Vice Chair of the Council for Clean & Reliable Energy.

READ MORE: GO.IVEY.CA/REGULATORYREFORM



CCRE ENERGY LEADERS ROUNDTABLE


 APRIL 10-12, 2019, ORANGEVILLE

The Energy Centre supported the ninth Annual Energy Leaders Roundtable, led by the Council for Clean & Reliable Energy, in Orangeville, Ont. Keynote addresses were given by the Honourable Rod Phillips, Ontario's Minister of the Environment, Conservation and Parks; Michael Rencheck, President and CEO, Bruce Power; and Hal Kvisle, Board Chair, Finning International, Board member, Cenovus Energy, and former CEO, TransCanada Corporation. Assistant Professor Brandon Schaufele participated in a panel titled "The Role of Innovation: Balancing Climate and Energy Policy."

READ MORE: GO.IVEY.CA/ENERGYLEADERSROUNDTABLE



STRENGTHENING TRUST IN THE ENERGY SECTOR

 JANUARY 29, 2019, TORONTO

This Ivey Idea Forum featured a keynote presentation by Robin Nuttall, Global Lead of McKinsey's Regulatory and External Affairs Practice. Nuttall and a panel of energy sector leaders shared firsthand experiences in stewarding connections with their stakeholders. Panellists included Eric Axford, Executive Vice President and Chief Sustainability Officer, Suncor Energy; Bonnie Hiltz, Director, Power and Utilities, Sussex Strategy; and James Scongack, EMBA '17, Executive Vice-President, Corporate Affairs and Operational Services, Bruce Power.

READ MORE: GO.IVEY.CA/STRENGTHENINGTRUST

ENERGY MATTERS @IVEY

BLOG POSTS



MBA Energy Club hosts event on Canadian energy	Oct 10, 2019	go.ivey.ca/energyclubevent
The left hand, right hand approach to electricity policy	Sept 9, 2019	go.ivey.ca/electricitypolicy
Understanding regulatory independence	Aug 15, 2019	go.ivey.ca/regulatoryindependence
A closer look at household energy bills in Quebec and Ontario	Jun 13, 2019	go.ivey.ca/energybills
Regulating in the public interest: Moving beyond the recommendations of the OEB Modernization Review Panel	Apr 2, 2019	go.ivey.ca/regulation
Energy matters: Radically engaging with society	Mar 4, 2019	go.ivey.ca/energymatters
Regulating Ontario's electricity sector in the public interest	Jan 10, 2019	go.ivey.ca/electricitysector

FACULTY AND STAFF

GUY HOLBURN, DIRECTOR

Guy Holburn is Professor of Business, Economics and Public Policy, and the Suncor Chair in Energy Policy at the Ivey Business School. His areas of expertise are regulation, governance, and business strategy, with a focus on the energy and utilities sectors. Holburn is the Founder and Director of the Ivey Energy Policy and Management Centre, which conducts applied research on energy sector policy in Canada. He is also a director of London Hydro, an advisory board member of the Canadian Network for Energy Policy Research and Analysis, and a member of the Council for Clean & Reliable Energy. Holburn has served as consultant to corporations and governments in Canada and the United States, and has testified as an expert witness on regulation and corporate governance at the Muskrat Falls Inquiry and on business strategy in commercial litigation. He holds a PhD and MA from the University of California, Berkeley and a BA Hons. (First Class) from Cambridge University. Previously, he worked for several years as a management consultant for Bain & Company in the U.K. and in South Africa.

ADAM FREMETH, HBA '00, E.J. KERNAGHAN PROFESSOR IN ENERGY POLICY

Adam Fremeth is the E.J. Kernaghan Professor in Energy Policy and Associate Professor of Business, Economics and Public Policy at the Ivey Business School. His research focus is on how firms engage and respond to public policy, with particular attention to regulated utilities and the upstream oil and gas sector. Ongoing research projects include how firms engage with First Nations communities through impact and benefit agreements, the role of activist groups in regulatory rulings in the electric utility sector, and the patterns of personal campaign contributions by chief executive officers. This research agenda has been awarded numerous national grants from the Social Sciences and Humanities Research Council, and Fremeth's work has been published in top-tier economics and management journals. Fremeth was named a Fulbright Scholar for 2018/19. He received his HBA from the Ivey Business School, his MA from Carleton University, and his PhD from the University of Minnesota.

BRIAN RIVARD, RESEARCH DIRECTOR

Brian Rivard is an Adjunct Professor and Director of Research for the Ivey Energy Policy and Management Centre at the Ivey Business School. His area of expertise and study is electricity market design and regulation. Rivard has experience as an energy consultant, most recently as a Principal at Charles River Associates. He also worked for the Independent Electricity System Operator (IESO) as Director of Markets. While working at the IESO, he was responsible for providing analysis of the impacts of changes to the IESO Market Rules, Market Design, government policies, and other industry initiatives. For almost 15 years at the IESO, Rivard helped support the development of market-based approaches to managing Ontario's electricity system needs. In addition, he spent six years as a senior economist with Canada's Competition Bureau. He has also provided expert testimony before the U.S. Federal Energy Regulatory Commission and the Ontario Energy Board. He received his MA and PhD in Economics from Western University.

BRANDON SCHAUFELE, IVEY ENERGY CONSORTIUM FELLOW

Brandon Schaufele has been an Ivey Energy Consortium Fellow since 2015. He is an Assistant Professor of Business, Economics and Public Policy at the Ivey Business School. Prior to joining Ivey in 2014, he was an Assistant Professor in the Department of Economics at the University of Ottawa, as well as Research Director of the Institute of the Environment there. Having also served as the Research Director of Sustainable Prosperity, a leading Canadian think tank on environment-economy issues, his research focuses on the links between firms, governments, and civil society, with special emphasis on energy and environmental policy. Schaufele's recent research concentrates on how consumers and firms respond to major Canadian greenhouse gas emission reduction initiatives.

LAURA MCLEOD, CENTRE COORDINATOR

Laura McLeod coordinates operations and outreach for the Ivey Energy Policy and Management Centre. She first joined the Ivey Business School in 2010 and was previously the Program Coordinator for the Pierre L. Morissette Institute for Entrepreneurship. Prior to her career at Ivey, she worked in the book publishing industry. She holds a BA from Queen's University and a Postgraduate Diploma from Humber College.

READ ABOUT THE ENERGY CENTRE TEAM: [GO.IVEY.CA/ENERGYCENTRETEAM](https://go.ivey.ca/energycentreteam)

FELLOWS

MATT DAVISON

RESEARCH FELLOW

Matt Davison is the Dean of the Faculty of Science at Western University and Professor of Applied Mathematics and Statistical & Actuarial Sciences. He holds the Canada Research Chair in Quantitative Finance and leads the nationwide “Modelling Trading and Risk in the Market” project for the MITACS Network of Centres of Excellence.

RICHARD DICERNI

EXECUTIVE-IN-RESIDENCE

Richard Dicerni was Chair of the Ontario Energy Board Modernization Review Panel in 2018. He was Deputy Minister of Alberta Executive Council and Head of the Alberta Public Service from 2014 to 2016, as well as Deputy Minister of Industry Canada from 2006 to 2012.

RADOSLAV DIMITROV

RESEARCH FELLOW

Radoslav Dimitrov is Associate Professor of Political Science at Western University. He has participated in international climate change negotiations since 2009. He is former Co-Chair of the European Union Task Force on Political Communication and Chief Political Strategist on the European Union Presidency Team in climate policy.

CHRIS GUILLON, MBA '06

EXECUTIVE FELLOW

Chris Guillon, MBA '06, is Vice President of Finance and Co-Founder of tormFisher Environmental, a North American pioneer in the commercialization of biogas. He has extensive experience in the commercialization and financing of innovative clean technologies.

MARTHA HALL FINDLAY

EXECUTIVE FELLOW

Martha Hall Findlay is President and CEO of the Canada West Foundation. She was a Member of Parliament from 2008 to 2011, serving in several capacities in the Shadow Cabinet and as a member of the House of Commons Standing Committees on Finance; Transport, Infrastructure and Communities; Government Operations; and International Trade. She is currently a member of the Minister of International Trade's Expert Advisory Council.

HORIA HANGAN

RESEARCH FELLOW

Horia Hangan is a Professor in the Faculty of Engineering at Western University and the founding Director of the Wind Engineering, Energy and Environment (WindEEE) Research Institute. His research is on the simulation and impact of high-intensity winds (downbursts and tornados), wind energy (sitting in complex terrain, wind turbine blade aerodynamics), and wind environmental impacts (atmospheric pollution-dispersion, particulate transport).

DAVID HAY

EXECUTIVE FELLOW

David Hay is Corporate Director and Managing Director of Delgatie Incorporated. He serves on the boards of Hydro One, EPCOR Utilities Inc., SHAD (Chair), and the Council for Clean & Reliable Energy. He is the former Vice-Chair and Managing Director of CIBC World Markets, and former CEO of New Brunswick Power.

MATT JAMIESON

EXECUTIVE FELLOW

Matt Jamieson is CEO of the Six Nations of the Grand River Development Corporation. He is a member of the Tuscarora Nation and resident of Six Nations of the Grand River. In his role as CEO, he leads strategy, operations, and investment decisions.

DENNIS MCCONAGHY

EXECUTIVE FELLOW

Dennis McConaghy is the former Executive Vice-President, Corporate Development at TransCanada. He joined TransCanada in 1998 and held senior positions in Corporate Strategy & Development, Midstream/Divestments, and Business Development. He is the author of two books: *Breakdown: The Pipeline Debate and the Threat to Canada's Future* (Dundurn, 2019) and *Dysfunction: Canada After Keystone XL* (Dundurn, 2017).

KAREN TAYLOR

EXECUTIVE FELLOW

Karen Taylor is the Vice Chair of the Council for Clean & Reliable Energy. She is also an independent energy consultant to industry and investors, with deep experience in capital markets, regulatory policy, and infrastructure investing. She previously served as the Executive Advisor to the Chair of the Ontario Energy Board and was a member of the Ontario Energy Board.

**READ ABOUT THE FELLOWS: GO.IVEY.
CA/ENERGYCENTREFELLOWS**



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www.ivey.uwo.ca/energycentre/



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