

CELEBRATING

**10**

YEARS

# IVEY ENERGY POLICY AND MANAGEMENT CENTRE



ANNUAL REPORT 2021



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# DIRECTOR'S MESSAGE

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**GUY HOLBURN, DIRECTOR** | Ivey Energy Policy and Management Centre | Professor of Business, Economics and Public Policy, Ivey Business School

I am delighted to share our 2021 Annual Report, which celebrates a decade of the Ivey Energy Policy and Management Centre. When the Centre was formally established 10 years ago, it was a small operation but it had a big vision: To become one of Canada's leading university-based energy research centres, providing trusted, evidence-based thought leadership on energy sector development, policy, and regulation in support of a thriving Canadian economy. As I look back at the Centre's considerable achievements, I believe that we have successfully executed on our strategy for making a positive impact on public discourse; although, at a time when energy issues are more complex and salient than ever, there is of course much more work to be done. I am especially proud of three aspects of the Centre's contributions over the last decade: Research, outreach and education.

At the core of the Centre's mission is independent, applied research on pressing energy sector issues. The Centre's faculty have published numerous peer-reviewed papers, reports, and Policy Briefs, which reach a wide audience through our regular e-newsletter, on topics ranging from energy pricing, infrastructure development, environmental regulation and economic impact to Indigenous partnerships, climate change, and energy statistics. Some of this work has directly informed provincial and federal policymaking, including Ontario's Fair Hydro Plan, the National Energy Board Modernization Panel, and the Muskrat Falls Inquiry. All of our research, through careful

conceptual and data-driven analysis, helps to deepen collective understanding of critical energy topics and policy solutions.

Outreach is equally important to our mission, and over the last decade we have established a trusted forum for public discussion where stakeholders are able to freely exchange ideas in a thoughtful, respectful manner. We have hosted and supported an astonishing 83 expert panels, conferences, lectures, and workshops since 2011, featuring approximately 280 speakers and more than 9,200 audience participants.

CONTINUED ON PAGE 4

Leaders from industry, Indigenous communities, government, labour unions, and academia have shared their perspectives, coming from Canada, the United States, and Europe. By forging these individual and personal connections, we have developed a community that values high-quality discourse about innovative approaches for improving economic, social, and environmental outcomes.

The Centre's faculty team has also been passionate about education and the opportunity to engage with Ivey's undergraduate, graduate, and executive students, as well as alumni in different parts of the country. Through energy-focused courses, case studies, simulations, essay competitions, and guest lectures, our students learn first hand about one of Canada's largest industries, and its strategic, leadership and policy opportunities. I am always impressed by the enthusiasm that students bring to energy-related discussions, and many Ivey students spend part of their careers working directly or indirectly in the energy sector.

We couldn't have achieved all this without the support and commitment of many talented individuals, including faculty, staff, Ivey alumni, Fellows, Executives-in-Residence, and Advisory Board members – all of whom have played an important role in the Centre's growth. I am thankful to the members of the Ivey Energy Consortium, who have faithfully supported the Centre over many years: ATCO, Bruce Power, Hydro One, OMERS, Power Workers' Union, Suncor Energy Foundation, TC Energy and Union Gas. I would also like to acknowledge Ted Kernaghan, HBA '65, whose generous gift in 2018 established the E.J. Kernaghan Chair in Energy Policy and Research Fund. It has been a privilege to work with all our partners and I am immensely grateful to them and the whole Energy Centre team for their dedication. The global energy sector faces exciting times ahead and I look forward to the next decade of leadership from the Ivey Energy Policy and Management Centre.

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## MESSAGE FROM STEVE BAKER, CHAIR OF THE ADVISORY BOARD



**STEVE BAKER** | Former President, Union Gas Limited

It is an honour and privilege to recognize and celebrate the Centre's 10-year anniversary in 2021. I have been involved with the Centre over many years as both a member of the Ivey Energy Consortium and now as Chair of the Centre's Advisory Board. It is absolutely amazing to see how the Centre has evolved and grown over the past 10 years.

The energy sector has and continues to experience significant change, and the Centre has been at the forefront of these changes. The work and mission of the Centre in bringing together academia, industry, and students to discuss and tackle the issues facing the energy sector remains as relevant today as it was when the Centre was formed 10 years ago. Through the development of relationships and partnerships, the Centre has been able to bring together industry and academic experts to create objective and unbiased research and sector dialogue in an effort to both educate and navigate the many issues facing the energy sector.

I have thoroughly enjoyed my relationship with the Centre and the many discussions with the Ivey team as well as Consortium members over the years as we have worked to explore, debate, and find alignment on the many issues facing the energy sector – and always with a view to balance the environment, affordability, and the economy. I look forward to seeing the Centre continue to grow and continue to tackle energy issues over the next 10 years!

# BY THE NUMBERS, 2011-2021

\$1.9 million

Grants and awards

5,400

Ivey Energy Newsletter subscribers

31

Policy Briefs

9,200

Attendees at events

83

Conferences, panels,  
and workshops

\$5.5 million

In donations

10

Fellows and  
Executives-in-Residence

500

Ivey students completed Energy and  
Natural Resources courses

27

Blogs

# A DECADE OF RESEARCH

## TOP POLICY BRIEFS AND REPORTS



### The Investment Climate for Canada's Energy Sector

Based on an extensive survey of senior energy sector executives, the report examines the investment climate for Canada's electricity, gas, oil, and pipeline industries and recommends several policy areas where reform would facilitate investment.



### A Historical and Comparative Perspective on Electricity Rates

With a focus on the modern era of electricity in Ontario, the Policy Brief provides a historical and comparative perspective on provincial electricity rates from 1970 to 2015, a period that includes the move towards nuclear generation, deregulation, and decarbonization.



### Developing Global Market Access for Canada's Oil and Gas Industry

In the last three decades, Canada has achieved a leading position in the global oil and gas industry. But will it last? This Policy Brief addresses the future opportunities as well as the economic risks that Canada faces.



### The Economic Cost of Electricity Generation in Ontario

This report brings an economic perspective to the analysis of electricity generation costs and prices in Ontario. Generation accounts for approximately two-thirds of Ontario's total electricity system costs, and has a major impact on consumer electricity bills.



### Regulating Induced Emissions from Pipelines

Impact assessments for pipelines focused historically on factors such as safety and the prospect of spills. The regulatory process did not explicitly consider carbon dioxide emissions. This changed with the passage of Bill C-69. This Policy Brief outlines one potential framework for regulating induced emissions from future oil and gas pipelines.



## The Paris Agreement on Climate Change: An Overview and Implications for Canada

Virtually all countries, including Canada, have ratified the Paris Agreement on Climate Change. The short- and long-term effects of the Paris Agreement on energy-based economies like Canada's are examined in this Policy Brief.



## What do we Know About Household Energy Conservation Programs? Evidence from Medicine Hat

While programs designed to promote investment in energy conservation are popular across North America, little is known about their actual effectiveness. This Policy Brief investigates a program to reduce electricity and gas consumption in the City of Medicine Hat, and finds that the program had minimal effects.



## Risks and Costs of Regulatory Permit Applications in Canada's Pipeline Sector

This report provides results from a program of research that investigates the impact of regulatory and political approvals processes for major hydrocarbon infrastructure projects on the investment environment for project developers.



## Regulating Mega-Projects: The Case of Muskrat Falls

This report provides an assessment of the impact of exempting the Muskrat Falls Project from regulatory oversight by the Newfoundland and Labrador Board of Commissioners of Public Utilities on the development and costs of the project.

PHOTO SHARED WITH PERMISSION FROM NEWFOUNDLAND AND LABRADOR HYDRO



## The Duty to Consult and Accommodate Aboriginal Groups in Canada

This Policy Brief provides an overview of current practices and the origins of the duty to consult and accommodate with Aboriginal communities when extractive and infrastructure projects cross their lands.

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

# DIRECT CONTRIBUTIONS TO POLICY

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## Ontario's Fair Hydro Plan

Energy Centre faculty identified an opportunity to smooth electricity generation costs over longer periods, which they analysed in a Policy Brief and discussed in an op-ed in *The Globe and Mail*. They estimated that the smoothing policy could reduce contracted generation charges by up to \$1.7 billion in 2018, equivalent to eight per cent of total electricity system costs. The Energy Centre shared its analysis with the Ministry of Energy, and this work informed the government's Fair Hydro plan, the goal of which was to lower residential hydro bills by 25 per cent.

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## National Energy Board Modernization Expert Panel

The Centre contributed to the National Energy Board (NEB) Modernization Expert Panel, a group charged with recommending to the government ways to improve the environmental assessment and regulatory review process for major natural resource projects. The Centre wrote a report that outlined the benefits of a new two-step review process for pipeline approvals, whereby the government would decide at an early stage whether a project is broadly in the public interest, followed by a detailed technical and economic assessment by the NEB. Research conducted by the Centre showed how a two-step process would reduce risks and costs for pipeline project developers, in turn helping to sustain major investment.



PHOTO SHARED WITH PERMISSION FROM NEWFOUNDLAND AND LABRADOR HYDRO

## Muskrat Falls Inquiry

The Muskrat Falls Inquiry was convened by the Government of Newfoundland and Labrador after the cost of the 824MW Muskrat Falls hydroelectric project almost doubled from its initial estimate of \$7.2 billion to \$12.7 billion, running several years behind schedule. The Inquiry, which began in early 2018, was designed to uncover why the project was approved, why the cost and construction schedule escalated, and what could be learned for future megaproject oversight. The Inquiry called on independent experts, including Professor Guy Holburn who testified on regulation and corporate governance of mega-projects, and Professor Brandon Schaufele who testified on economic implications of the project.

# Student research assistants reflect on their experiences with the Energy Centre



## PRADEEP VENKATESH

BSc, MBA Candidate 2022,  
Yale School of Management

"The Ivey Energy Policy and Management Centre taught me the value of evidence-based academic research in informing

energy policy making and business decisions. During my time at the Centre, I had the opportunity to work on a variety of energy questions, including how to develop global market access for Canada's oil and gas industry. My work at the Centre helped me understand the economic, financial, and policy underpinnings of the global energy market, and gave me the skills I needed to pursue a career in the renewable energy transition."



## JIYA HAI

HBA '22

"I was fortunate to work closely with leading energy sector experts to research, assess, and communicate Canadian energy policy insights. Through this experience, I gained deep knowledge of pressing energy issues and learned best practices in conducting

evidence-based analysis. My time at the Centre inspired me to pursue research and policy work in the public sector with a focus on major economic issues impacting Canada. I now work for Infrastructure Canada as a Junior Economist and previously worked for the Ontario Ministry of Municipal Affairs and Housing as a Policy and Programs Assistant."

## FACULTY RESEARCH GRANTS AND AWARDS

To date, Energy Centre faculty have received \$1.9 million in government and university grants, scholarships, and fellowships to support their research.

### Associate Professor

#### Adam Fremeth, HBA '00

- Social Sciences and Humanities Research Council Insight grant, 2020-2021 (with Guy Holburn).
- Fulbright Scholar Award, 2018-2019.
- Social Sciences and Humanities Research Council grant, 2014-2018.
- Social Sciences and Humanities Research Council grant, 2011-2014.
- Carbon Management Canada grant, 2011-2014.

### Professor

#### Guy Holburn

- Erskine Fellowship, University of Canterbury, New Zealand, 2018.
- Ontario Ministry of Energy grant, 2017-2018.
- Natural Resources Canada grant, 2015-2016.
- Social Sciences and Humanities Research Council grant, 2010-2013.
- Hydro One University of Western Ontario Research grant, 2010-2012.

### Associate Professor

#### Brandon Schaufele

- Western Research Internship Program, 2021.
- Environment Canada Economics and Policy Research Network, 2012-2017.
- Sustainable Prosperity Research grant, 2013.
- University of Ottawa CUT grant, 2012-2013.
- Pacific Institute for Climate Science, 2012-2014.
- CIGI-INET Research grant, Collaborator, 2012-2014.

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

# FORTHCOMING POLICY BRIEFS

## Electrification and Investment in Canada's Electricity Sector

**GUY HOLBURN, BRIAN RIVARD AND SORENA RAHI**

Canada's electricity sector is expected to play a central role in the country's transition to a low emission economy given its significant stock of zero or low emission hydro-electric, nuclear and renewable power generation technologies. Yet, increased electrification of the economy will require major investment in new electricity infrastructure across the country: Recent research estimates that in order to achieve the net zero target by 2050, Canada would need to more than triple its generation capacity from 147 to 488 gigawatts, build over 23,000 kilometres of new high voltage power lines, and invest in new energy storage technologies, all at a cost of between \$9.8 to \$47.7 billion per year up until 2050. This Policy Brief provides an in-depth assessment of the investment environment for Canada's electricity sector based on data from an extensive survey of senior industry executives.

## The Paris Agreement in 2021: Canada in a Global Context

**RADOSLAV DIMITROV**

The 2015 Paris Agreement on Climate Change (PA) is the main international policy agreement that defines the global response to climate change. Its environmental goal is to keep the global temperature rise to "well below 2°C" and preferably to 1.5°C. Policies required to meet these goals include expanding renewable energy, enhancing energy efficiency and decarbonizing transportation, energy systems and energy-intensive industries. Efforts to reach the 1.5°C goal are expected to require global investments of US\$1.6 trillion to US\$3.8 trillion per year between 2020 and 2050. The 2020 global pandemic temporarily reduced this cost as it slashed energy consumption and led to a record drop in global emissions, but the hard work of implementing the PA is still ahead.

## Where's the Cheque? Governance, Ownership and Dividend Policies of Electric Utilities

**ADAM FREMETH AND GUY HOLBURN**

This Policy Brief examines the dividend policies of local electricity distribution companies (LDCs) in Ontario that are wholly owned by local municipalities. While LDCs are permitted to earn a regulated financial rate-of-return on shareholder equity that allows for dividend payments, regulators have expressed concern that municipal owners of LDCs may extract too high dividends – to fund municipal budgets and social programs – at the expense of re-investment in LDC infrastructure and network reliability. To examine this thesis, the Policy Brief documents and analyses annual dividend payments by all 71 LDCs in Ontario from 2014 to 2019.

## Corporate Governance of Government-Owned Utilities: Lessons from EPCOR

**GUY HOLBURN AND DAVID HAY**

This Policy Brief examines the corporate governance structures, practices and history of Edmonton Power Corporation (EPCOR) Utilities, wholly owned by the City of Edmonton in Alberta, which has been recognized as one of North America's most successful municipally-owned utilities. The Policy Brief draws on interviews with Hugh Bolton and Janice Rennie, the former and current Chairs of EPCOR's board of directors, who shared their perspectives on EPCOR's governance and strategy.

# A DECADE OF OUTREACH

The Energy Centre has organized more than 80 conferences, panels, and workshops over the last 10 years.



## Canada's Energy Future: Disruption, Denial and Transition



JANUARY 2020

This Idea Forum featured a keynote presentation by Peter Tertzakian, Deputy Director at ARC Energy Research Institute. Tertzakian is an economist, investment strategist, advisor, author, and public speaker on issues vital to the future of energy and Canada's role in meeting evolving energy demand. Lisa DeMarco, DeMarco Allan LLP and Michael Kelly, OMERS, also shared remarks.



## Regulatory Reform in Ontario's Energy Sector



MAY 2019

Richard Dicerni, Chair of the Ontario Energy Board Modernization Review Panel from 2018-19, discussed the panel's 2019 report. Other speakers 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.



## Strengthening Trust in the Energy Sector



JANUARY 2019

This 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. Panelists: Eric Axford, Suncor Energy; Bonnie Hiltz, Sussex Strategy; James Scongack, Bruce Power.



## Keeping Canada's Energy Sector Globally Competitive



DECEMBER 2017

This Idea Forum featured expert panelists: Aaron Engen, Managing Director and Co-Head of the Power & Energy Infrastructure Group at BMO Capital Markets, John McManus, Senior Advisor of OMERS Infrastructure, and Steve Baker, President of Union Gas in a discussion about the issues Canada faces in staying competitive within global energy markets.



## The Global Energy Challenge: What is the Future of Fossil Fuels?



SEPTEMBER 2017

The Ivey Energy Centre and Haskayne School of Business hosted a special keynote lecture and panel discussion featuring Professor Michael Greenstone, University of Chicago, Steve Williams, President and CEO, Suncor Energy Inc., and Richard Dicerni, Adjunct Professor, Ivey Business School.



## How Firms Succeed and Fail in Resource Development



NOVEMBER 2016

Bill Gallagher, lawyer and expert on corporation relations with Aboriginal Peoples, addressed Ivey HBA students in Associate Professor Adam Fremeth's Managing Energy and the Environment course.



## Building Local Community Confidence in Renewable Energy Development



SEPTEMBER 2016

The topic of this Idea Forum was energy development, opposition, and lessons from successful community projects. The event featured a keynote presentation by The Honourable Elizabeth Dowdeswell, Lieutenant Governor of Ontario, and remarks from Ken Hewitt, Mayor of Haldimand County, Margaret Loudermilk, Research Director at the Ivey Energy Policy and Management Centre, Michael Lyle, Vice President, Planning, Law and Aboriginal Relations at the IESO, and Kris Smith, Executive Vice President, Downstream, at Suncor.



## Electricity Privatization and Restructuring in Ontario and Abroad



NOVEMBER 2015

This Idea Forum featured a keynote presentation by Stephen Littlechild, Emeritus Professor, University of Birmingham, and Fellow, Judge Business School, University of Cambridge. Jan Carr, former CEO of the Ontario Power Authority, David Hay, former CEO of New Brunswick Power Corporation, Dwight Duncan, Senior Strategic Advisor at McMillan LLP, and John McManus, Senior Advisor at Borealis/OMERS also shared remarks.



## Positive Energy Conference



MARCH 2015

In partnership with the University of Ottawa, the Ivey Energy Centre co-hosted a conference on the topic of "Building a path to social acceptance and support of energy development in Canada." This event brought together over 120 senior leaders in industry, government, academic, NGOs, and Aboriginal groups. Speakers included Steve Williams, President and CEO at Suncor, Nancy Southern, President and CEO at ATCO Ltd., and Ellis Ross, Chief Councilor of the Haisla Nation.



## Balancing Economic and Social Pressures in Canada's Energy Sector



OCTOBER 2015

This expert panel discussion brought together industry leaders from Ontario and Alberta to discuss paths for developing Canada's energy sector in a sustainable manner. Speakers included Steve Baker, Union Gas; Siegfried Kiefer, ATCO; Gord Lambert, Suncor; Don MacKinnon, Power Workers' Union; John McManus, OMERS; and Francois Poirier, TransCanada (now TC Energy).



## Aboriginal Relations and Energy Sector Development



SEPTEMBER 2014

This event featured a diverse panel of speakers, including Michael Keenan, Associate Deputy Minister of Natural Resources, Chief Vern Janvier of Chipewyan Prairie Dene First Nation, Kendall Dilling, Vice-President, Environmental and Regulatory Affairs at Cenovus Energy, and Bill Gallagher, strategist and lawyer.



## Shale Gas and Hydraulic Fracturing: Energy Sector Evolution or Revolution?



JANUARY 2013

Panelists from industry and government discussed the North American boom in shale gas and hydraulic fracturing. Speakers included Margaret Meroni, Environment Canada, Kevin Heffernan, Canadian Society for Unconventional Resources, and Burns Cheadle, Western University.

# The CCRE Annual Energy Leaders Roundtable

The Ivey Energy Centre has partnered with the Council for Clean & Reliable Energy (CCRE) to organize nine Annual Energy Leaders Roundtables since 2013 in Ontario, Alberta, and British Columbia. Each CCRE Roundtable features 40 to 50 invited senior leaders from industry, government, academia, Indigenous communities, labour unions, and think-tanks, who come together from across the country for two days to engage in candid, non-partisan dialogue about energy sector issues. This forum aims to find effective energy solutions for Canada and advance collaborative initiatives relating to governance and policy.

### KEYNOTE SPEAKERS:

**Gaetan Caron**, former Chair and CEO of the National Energy Board of Canada;

**Mathew Coon Come**, Grand Chief, Grand Council of the Crees;

**Anthony Haines**, President and CEO, Toronto Hydro Corporation;

**The Honourable Michael D. Harris**, former Premier of Ontario;

**Matt Jamieson**, President and CEO of the Six Nations of the Grand River Development Corporation;

**Hal Kvisle**, former CEO, TransCanada Corporation;

**Elizabeth May**, Leader of the Green Party of Canada;

**The Honourable Bob Rae**, former Premier of Ontario and interim leader of the Liberal Party of Canada;

**Mike Rencheck**, President and CEO, Bruce Power;

**The Honourable Brian Tobin**, Vice Chair at BMO Financial Group, former premier of Newfoundland and Labrador, and former federal minister;

**Annette Verschuren**, Chair & CEO of NRStor Inc. and Chair of the Clean Energy Task Force for Ontario; and,

**Deborah Yedlin**, Chancellor, University of Calgary.

# ANNUAL ELECTRICITY WORKSHOP

## Leading the discussion around markets and policy

In 2017, the Ivey Energy Centre launched its first Annual Workshop on Electricity Policy and Markets with the aim of gathering scholars, practitioners, and industry leaders to share ideas and research on contemporary issues related to electricity policy, regulation, and markets.

The Workshop seeks to:

- Foster independent research that contributes to effective electricity policies, regulation and market design;
- Expand the network of researchers working on electricity sector issues in Canada; and,
- Strengthen connections between academics and practitioners.

Over the past five years, stakeholders have convened annually to address key themes in the electricity sector, including future electrification scenarios, electricity market design in transition, and the impact of distributed energy technologies. As Canada's preeminent research forum to discuss electricity markets and policy in Canada, the Ivey Energy Centre has established a strong foundation and will continue to host this event, especially as jurisdictions across Canada look to redesign their grids.



The first Ivey Electricity Workshop was held in September 2017. Speakers included David Brown, University of Alberta, Alistair Fraser, University of British Columbia, Blake Shaffer, University of Calgary, and Frank Wolak, Stanford University, among others. Topics ranged from consumer behaviour to strategic firm conduct and environmental policy.



The 2018 Electricity Workshop was centered on the topic 'Electricity Market Design in Transition', with sessions exploring retail pricing and the implications of emerging technologies. James Bushnell, Professor at the University of California, Davis, delivered a keynote address.



In 2019, speakers and attendees explored lessons learned from 20 years of electricity sector restructuring. Meredith Fowlie, University of California, Berkeley, delivered a keynote address, titled 'Negotiating the clean energy transition: California's experiment-in-progress'.



The theme of the 2020 workshop was Mega Projects, Distributed Energy, and the Modern Grid'. Participants discussed the future of mega-projects and regulatory frameworks. Speakers included Paula Conboy, Sussex Strategy Group, William Hogan, Harvard University, John Mikkelsen, TC Energy, and Kathleen Spees, The Brattle Group.



The fifth annual Electricity Workshop was held throughout October 2021 as a series of webinars focused on 'Electrification Futures'. Speakers included Carlos Battle, MIT Energy Initiative; Tyler Bryant, FortisBC; Jason Fitzsimmons, Hydro One; and, Catherine Hausman, University of Michigan, among others. Severin Borenstein, E.T. Grether Professor of Business Administration and Public Policy at Haas School of Business, University of California, Berkeley, delivered the keynote address.

# RECENT EVENTS

## Fifth Annual Workshop on the Economics of Electricity Policy and Markets



OCT. 6-27, 2021



The Ivey Energy Policy and Management Centre organized its 5th annual electricity policy workshop along the theme of 'Electrification Futures.' The workshop consisted of four expert panels, held throughout October 2021. More than 180 participants from six countries participated.

### > Electrification Scenarios and Investment in Electricity Infrastructure

- Tyler Bryant, FortisBC;
- Caroline Lee, Canadian Institute for Climate Choices;
- Normand Mousseau, Université de Montréal; and,
- Adam Fremeth, Ivey Business School (Moderator).

**READ MORE: [GO.IVEY.CA/ELECTRIFICATIONSCENARIOS](https://go.ivey.ca/electrificationscenarios)**

### > Transmission and Distribution Grid Services of the Future

- Jason Fitzsimmons, Hydro One;
- Eric Vandenberg, Federal Energy Regulatory Commission;
- Joshua Wong, Opus One Solutions; and,
- Katherine Sparkes, Independent Electricity System Operator (Moderator).

**READ MORE: [GO.IVEY.CA/TRANSMISSION](https://go.ivey.ca/transmission)**

### > Electricity Rate Design and Electrification

- Carlos Batlle, MIT Energy Initiative;
- Catherine Hausman, National Bureau of Economics Research;
- Nicole LeBlanc, Alberta Electric System Operator; and,
- Brandon Schaufele, Ivey Business School (Moderator).

**READ MORE: [GO.IVEY.CA/ELECTRATEDESIGN](https://go.ivey.ca/electratedesign)**

### > Efficient and Equitable Pricing for the Energy Transition

- Severin Borenstein, E.T. Grether Professor of Business Administration and Public Policy, Haas School of Business, University of California, Berkeley; and,
- Guy Holburn, Ivey Business School (Moderator).

**READ MORE: [GO.IVEY.CA/ENERGYTRANSITION](https://go.ivey.ca/energytransition)**

## Integrate: A Graduate Sustainability Conference



NOV. 5, 2021

The Ivey Energy Policy and Management Centre supported the Ivey MBA and MSc Sustainability Clubs in organizing an 'Integrate' conference to discuss sustainability practices in different areas of business. Speakers on the energy panel included Brian Rivard, Adjunct Professor, Ivey Energy Policy and Management Centre; Karen Taylor, MBA '92, Vice Chair, Council for Clean & Reliable Energy; and Cam Carver, MBA '08, Corporate and Business Development, Workbench Energy.

**READ MORE: [GO.IVEY.CA/INTEGRATE](https://go.ivey.ca/integrate)**

## The Paris Agreement in 2021



JUNE 16, 2021

Radoslav Dimitrov, Associate Professor of Political Science at Western University and European Union delegate at United Nations climate negotiations, reflected on the state of international climate policy and Canada's role within it during this webinar with Gord Lambert, Suncor Sustainability Executive-in-Residence at Ivey. Adam Fremeth, Associate Professor and E.J. Kernaghan Professor in Energy Policy at the Ivey Business School moderated the session.

**READ MORE: [GO.IVEY.CA/PARISAGREEMENTPANEL](https://go.ivey.ca/parisagreementpanel)**

# TOP MEDIA STORIES



- **“Ontario is introducing a new electricity pricing plan – if you work from home, you might want to switch to it”**

TORONTO STAR, OCTOBER 2020

Guy Holburn was interviewed about the merits of tiered versus time-of-use electricity rates for residential consumers.

- **“Former energy executive Dennis McConaghy wins Donner prize for book on pipelines”**

CTV NEWS, SEPTEMBER 2020

Dennis McConaghy, Executive Fellow with the Energy Centre, won the Donner Prize for his book, *“Breakdown: the Pipeline Debate and the Threat to Canada’s Future.”*

- **“Muskrat without full oversight was a ‘big risk,’ says energy expert”**

CBC NEWS, OCTOBER 2018

Guy Holburn testified at the Muskrat Falls inquiry into the decision to exempt the hydroelectric project from oversight by the public utilities board.

- **“The high cost of cheap electricity”**

CBC NEWS, DECEMBER 2017

Adam Fremeth was quoted on the costs of power generation that are being passed on through legacy systems to Canadians.

- **“A formula for smoothing rising Ontario hydro bills”**

THE GLOBE AND MAIL, FEBRUARY 2017

An editorial by Guy Holburn, Adam Fremeth, Margaret Loudermill, and Brandon Schaufele outlined a formula for smoothing rising Ontario hydro bills.

- **“It’s time for clarity on Canada’s climate and energy policy”**

MACLEAN’S, FEBRUARY 2017

Dennis McConaghy wrote about the federal government’s commitment to the Paris climate agreement and its impact on the energy sector.

- **“Cold facts take the heat out of Ontario’s electricity debate”**

THE GLOBE AND MAIL, JUNE 2017

Brandon Schaufele and colleagues wrote about the controversy surrounding electricity prices in Ontario.

- **“When it comes to carbon taxes, follow mainstream economics”**

FINANCIAL POST, JANUARY 2015

Brandon Schaufele and colleague Nic Rivers set the record straight in a discussion of the cost of greenhouse gas emissions.

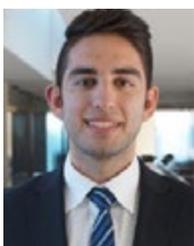
# A DECADE OF TEACHING



Professor Adam Fremeth leads a case discussion in his *Managing Energy and the Environment* course in September 2019.

*Managing Energy and the Environment* is a popular undergraduate course at Ivey, taught by Adam Fremeth, the Centre's Associate Director. The course meets a growing demand from Ivey students to better understand the opportunities and challenges in the global energy sector and how firms can strategically manage development in a financially, socially and environmentally sustainable manner.

Through case studies, simulations, and exercises, the course has taught more than 500 students about how energy firms compete, thrive, and contribute to Canada's business landscape. The students benefit from active in-class participation from the Centre's Executive Fellows through guest lectures and live discussions, as well as participation from other invited industry and government experts. Students who have taken this course have subsequently pursued careers in energy, mining, oil and gas, investment banking, public advocacy, accounting, and strategy consulting.



**SHAYAN SADEGHIEH, HBA '18,**  
MPhil in Energy Technologies,  
Cambridge University

"Prior to Ivey, my understanding of the energy industry was strictly from engineering courses. Although this was sufficient for technical analysis, taking additional courses through the Ivey Energy Centre made me appreciate the overall energy landscape, including stakeholder relations, regulations and public policy. Having this overarching understanding of the impact of my technical decisions has proven to be invaluable. It has allowed me to study the societal impacts of novel energy technologies at the University of Cambridge and within my role as an engineer at green energy startups."



**BRETT KELLER, HBA '18,**  
Manager, Energy Economics,  
Ministry of Energy and  
Resources, Government  
of Saskatchewan

"I joined the Ivey Energy and Resources Club, eventually becoming Co-President, and I jumped at the opportunity to take the *Managing Energy and the Environment* course. The course's messaging, which balances energy-related innovations with practical real-world considerations, is something every Ivey student should learn about. The course helped me better understand market inefficiencies, externality pricing and government policies. I've been lucky enough to apply these learnings in my current role with the Government of Saskatchewan, developing policies that promote both environmental and economic success."

# Energy Centre Executive Fellows have significant impact on student experience

## Chris Guillon, Executive Fellow and Co-founder of StormFisher Environmental



Chris Guillon has spoken to Ivey students many times about his experience co-founding StormFisher Environmental, which is the subject of two case studies written by Ivey Professors Guy Holburn and Oana Branzei:

“As an Ivey grad myself, I find interacting with the students deeply rewarding. Over the years, I have engaged with the Ivey community through debriefing case studies,

sharing my experience as an entrepreneur, and mentoring students in the HBA Sustainability Certificate program. I feel that I can offer a valuable perspective based on my experiences in the alternative/renewable energy sector.”

## Gord Lambert, Suncor Sustainability Executive-in-Residence



Gord Lambert has participated in numerous Ivey events, and has co-written a case on managing climate policy risk that draws on insights from his career at Suncor Energy, the Alberta Energy Regulator, and as an advisor to government:

“It’s terrific to see how insightful and engaged students become in the case discussions. It’s timely and topical with the rising interest in climate and energy solutions and the challenges for leaders of legacy and new companies to take

meaningful action in accelerated timeframes. I aspire to share my career experiences with faculty and students in a manner that enriches their research and thinking on important energy and sustainability challenges. The caliber of the Ivey Energy Centre and its staff and students is inspiring and always energizes me.”

## Dennis McConaghy, Executive Fellow and Author



Dennis McConaghy is a former TransCanada executive (now TC Energy). He is the author of two books – *Breakdown: The Pipeline Debate and the Threat to Canada’s Future*, which won the 2020 Donner Prize, and *Dysfunction: Canada after Keystone XL*:

“Ivey’s Energy Centre improves the understanding of Ivey students and the general public of complex and difficult public policy issues related to energy and climate. This is fundamental to

ensuring that informed debate and consideration of policy options occurs constructively and dispassionately. My role includes working with students on specific issues and case studies; engaging in broader forms of public discussion and commentary across all media; and, publishing longer form analysis of major energy and climate issues. The circumstances Canada finds itself in today make the work of the Centre relevant and urgent.”

## Karen Taylor, Executive Fellow and Vice Chair of the Council for Clean & Reliable Energy



Karen Taylor has more than 25 years of senior executive financial and energy experience. She is the Vice Chair of the Council for Clean & Reliable Energy:

“My role at the Energy Centre creates new pathways to give back as an Ivey alumna – from participating in events, mentoring for the HBA Sustainability Certificate program, to writing the occasional blog. Engaging with Canada’s future business leaders on energy sustainability and climate

change is a particular highlight as Canada is at a crossroads. Our nation needs a sustainable energy policy that addresses energy supply and demand in the context of climate change. The enthusiasm of our future business leaders for a sustainable, equitable energy future illustrates the strength of the Centre’s contribution to the processes.”

# IVEY STUDENT STORY COMPETITION

## CANADA'S ENERGY PAST, PRESENT, AND FUTURE

The Ivey Energy Centre, in partnership with Peter Tertzakian, Executive-in-Residence with the Centre and Deputy Director at ARC Energy Research Institute, organizes an annual energy story competition for Ivey students.

The competition challenges students to write a creative story about the future of energy and society by reflecting on lessons from Canada's energy past. Tertzakian's personal online museum, [www.energyphile.org](http://www.energyphile.org), provides inspiration and context to student storytellers.

In 2021, Michael Sawers, HBA '21, took top prize with his story, *The Candlemaker*, while Ada Zhang, MBA '22, and Helen Schreyer, HBA '21, were runners up.

HBA students Maya Chambers and Francis Coulombe earned first and second place respectively in the inaugural Energyphile story competition in 2020. Finalists for the third annual student story competition will be announced in spring 2022.



Coleman gasoline iron, circa 1939. Photo courtesy of Peter Tertzakian

## ENERGY MATTERS @IVEY

### TOP ENERGY BLOGS

EnergyMatters@Ivey offers an economic perspective on current energy policy matters. Here's a look at some of the Energy Centre's top viewed blog posts.

- A closer look at household energy bills in Quebec and Ontario
- Energy matters: Radically engaging with society
- The left hand, right hand approach to electricity policy
- Understanding regulatory independence
- COVID-19 economics: Electricity as a compass to recovery
- Regulating Ontario's electricity sector in the public interest
- Environmental policy and Canada's manufacturing clean-up
- Regulating in the public interest: Moving beyond the recommendations of the OEB Modernization Review Panel

# FACULTY AND STAFF

## **GUY HOLBURN** | DIRECTOR

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Guy Holburn is the founder and Director of the Ivey Energy Policy and Management Centre and Professor of Business, Economics and Public Policy at Ivey Business School. His research and teaching focuses on regulation, governance and strategy issues in the energy and utilities sectors. He has published widely in top peer-reviewed academic journals, and authored more than a dozen reports on provincial and federal energy policies. He is a director of London Hydro and a member of the Council for Clean & Reliable Energy. Holburn has served as consultant to corporations and governments in Canada and the U.S., and he has testified in commercial litigation and at the Muskrat Falls Inquiry. 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 and Company in the U.K. and in South Africa.

## **ADAM FREMETH** | ASSOCIATE DIRECTOR & E.J. KERNAGHAN PROFESSOR IN ENERGY POLICY

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Adam Fremeth is Associate Director of the Ivey Energy Policy and Management Centre, the E.J. Kernaghan Professor in Energy Policy, Associate Professor of Business, Economics and Public Policy, and MBA Program Faculty Director at Ivey Business School. He holds a PhD from the Carlson School of Management at the University of Minnesota, MA in International Affairs from Carleton University, and HBA from Ivey. His research focuses on the intersection of firm strategy and public policymaking.

## **BRIAN RIVARD** | ADJUNCT RESEARCH PROFESSOR

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Brian Rivard is an Adjunct Research Professor for the Ivey Energy Policy and Management Centre at Ivey Business School and a member of Ontario's Electricity Market Surveillance Panel. His area of expertise and study is electricity market design and regulation. Brian 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. For almost 15 years at IESO, he helped support the development of market-based approaches to managing Ontario's electricity system needs. In addition, Brian spent six years as a senior economist with the Canadian Competition Bureau. He holds a PhD and MA in Economics from the University of Western Ontario.

## **BRANDON SCHAUFELE** | IVEY ENERGY CONSORTIUM FELLOW

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Brandon Schaufele is an Associate Professor of Business, Economics and Public Policy at the Ivey Business School. His areas of expertise are regulation, policy and markets, with a focus on the energy sector. Brandon is a Consortium Fellow of the Ivey Energy Policy and Management Centre, which conducts applied research on energy sector policy in Canada. He is also the Treasurer of the Canadian Economics Association and a past Chair of the Canadian Resource and Environmental Economics Association. Brandon has consulted with companies and governments in Canada and the U.S., and has testified as an expert witness on energy economics at the Muskrat Falls Inquiry and in commercial litigation. Previously he was a faculty member in the Department of Economics at the University of Ottawa and served at the Research Director of the Institute of the Environment and for Sustainable Prosperity. He holds a PhD and MA from the University of Alberta and BSSc from the University of Ottawa.

## **LAURA MCLEOD** | CENTRE COORDINATOR

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Laura McLeod coordinates operations and outreach for the Ivey Energy Policy and Management Centre. She first joined the Ivey Business School in 2010 and has held positions with the Ivey Morrisette Institute for Entrepreneurship and Faculty Services. She holds a BA from Queen's University and a Postgraduate Diploma from Humber College.

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

# FELLOWS AND EXECUTIVES-IN-RESIDENCE

## MATT DAVISON

### RESEARCH FELLOW

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Matt Davison is Dean, Faculty of Science at Western University and Professor of Applied Mathematics and Statistical & Actuarial Sciences.

## CYNTHIA CHAPLIN

### EXECUTIVE FELLOW

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Cynthia Chaplin is Executive Director of CAMPUT (Canada's Association of Energy and Utility Regulators) as well as a consultant in energy regulation matters..

## RICHARD DICERNI

### EXECUTIVE FELLOW

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Richard Dicerini is Chair of the Ontario Energy Board's (OEB) Board of Directors. He was Chair of the OEB Modernization Review Panel in 2018, Deputy Minister of Alberta Executive Council and Head of the Alberta Public Service from 2014 to 2016, and Deputy Minister of Industry Canada from 2006 to 2012.

## RADOSLAV DIMITROV

### RESEARCH FELLOW

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Radoslav Dimitrov is Associate Professor of International Relations at Western University, and European Union Delegate to the United Nations Climate Change Negotiations.

## CHRIS GUILLON, MBA '06

### EXECUTIVE FELLOW

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Chris Guillon is Co-Founder and Vice President, Finance of StormFisher Environmental, a North American biogas power company.

## DAVID HAY

### EXECUTIVE FELLOW

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David Hay is Managing Director of Delgatie Incorporated a financial services advisory firm. He serves on the boards of Hydro One, EPCOR Utilities Inc., SHAD (Chair), and the Council for Clean & Reliable Energy.

## MATT JAMIESON

### EXECUTIVE FELLOW

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Matt Jamieson is CEO of the Six Nations of the Grand River Development Corporation.

## GORD LAMBERT

### SUNCOR SUSTAINABILITY EXECUTIVE-IN-RESIDENCE

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Gord Lambert is the former CEO, Alberta Energy Regulator and former Executive Advisor, Sustainability Suncor Energy.

## DENNIS MCCONAGHY

### EXECUTIVE FELLOW

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Dennis McConaghy is the former Executive Vice-President of Corporate Development at TransCanada. He has more than 25 years' experience in the oil and gas sector.

## KAREN TAYLOR, MBA '92

### EXECUTIVE FELLOW

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Karen Taylor is the Vice Chair of the Council for Clean & Reliable Energy, and an independent energy consultant.

## PETER TERTZAKIAN

### EXECUTIVE-IN-RESIDENCE

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Peter Tertzakian is Deputy Director at ARC Energy Research Institute, and Managing Director at ARC Financial. He is also an Adjunct Professor at the University of Calgary.

**READ MORE: [GO.IVEY.CA/ENERGYCENTREFELLOWS](https://go.ivey.ca/energycentrefellows)**



# ADVISORY BOARD

<b>STEVE BAKER (CHAIR)</b>	Former President, Union Gas Limited
<b>PAUL BOOTHE</b>	Former Professor and Director, Lawrence National Centre for Policy and Management, Ivey Business School
<b>RICHARD DICERNI</b>	Chair of the Ontario Energy Board's Board of Directors
<b>JASON FITZSIMMONS</b>	Chief Corporate Affairs and Customer Care Officer, Hydro One
<b>MARTHA HALL FINDLAY</b>	Chief Sustainability Officer, Suncor Energy
<b>SHARON HODGSON</b>	Dean, Ivey Business School
<b>GUY HOLBURN</b>	Professor and Director, Ivey Energy Policy and Management Centre, Ivey Business School
<b>GORD LAMBERT</b>	Suncor Sustainability Executive-in-Residence, Ivey Business School and Former CEO, Alberta Energy Regulator
<b>JEFF PARNELL</b>	President, Power Workers' Union
<b>JAMES SCONGACK</b>	Chief Development Officer and Executive Vice President, Operational Services, Bruce Power
<b>SAMANTHA STUART</b>	Vice President, Energy Transition, TC Energy

**READ MORE: [GO.IVEY.CA/ENERGYCENTREBOARD](https://go.ivey.ca/energycentreboard)**

The Ivey Energy Policy and Management Centre would like to acknowledge the following organizations and individuals for their past and present support, which enables the Centre to achieve its research, outreach and educational mandate:



Alberta Electric System Operator | ATCO | Canadian Association for Energy Economics | Canadian Electricity Association | Canadian Energy Pipeline Association | Canadian Gas Association | Government of Ontario | London Economics International | Mitacs Canada | Natural Resources Canada | Ontario's Independent Electricity System Operator | Power Advisory LLC | Social Sciences and Humanities Research Council | Union Gas

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