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File No. 61604.57

May 21, 2024

BY EMAIL & RESS
registrar@oeb.ca

Ms. Nancy Marconi
Ontario Energy Board
27th Floor, 2300 Yonge Street
Toronto, ON M4P 1E4

Dear Ms. Marconi:

Re: Generic Hearing on Uniform Transmission Rates – Phase 2 (EB-2022-0325) Association of Power Producers of Ontario ("APPrO") and Energy Storage Canada ("ESC") Letter of Intent to File Evidence

On April 19, 2024, the Ontario Energy Board ("OEB") issued Procedural Order No. 2 requesting that parties file submissions on the draft issues list and letters of intent to file evidence by May 21, 2024. This letter constitutes APPrO and ESC's submissions on both OEB requests.

1. Comments on Draft Issues List

In the Notice of Hearing issued on October 27, 2023, the OEB described the scope of issue 5 as a "…review whether the 1 MW and 2 MW thresholds are still the appropriate thresholds. The scope also includes considering the appropriate billing threshold for energy storage facilities." APPrO and ESC are proposing as a new Issue 5.1 that considers whether gross load billing remains the appropriate approach for billing renewable, non-renewable and energy storage facilities for transmission charges. There have been significant market and technological changes, particularly in relation to distributed energy resources since the implementation of gross load billing that may not have been accounted for at the time. APPrO and ESC are of the view that the OEB's review should include whether gross load billing is the correct approach, particularly considering the ongoing energy transition.

Additionally in response to interrogatory APPrO-ESC-3, Hydro One stated that the benefits of embedded generation is not currently an issue proposed for resolution in this proceeding. APPrO and ESC agree with Hydro One that the benefits of embedded generation is an important issue. Thus, APPrO and ESC are proposing that this issue should also be considered by the OEB as a new Issue 5.2.

2. Intent to File Evidence

The original reason given for gross load billing was that transmission customers who reduce their load supplied from the transmission system by installing embedded generation should continue to be charged for the sunk costs of the transmission system that was built to supply their original load.[1]

This rationale may have been in the public interest when gross load billing was first adopted, since electricity demand was decreasing and the OEB was concerned with avoiding stranded costs. But this approach has adverse consequences - it creates a financial disincentive for new distributed energy resources ("**DERs**") – as embedded generators and storage customers are still billed for the "sunk costs" of transmission assets that may have fully replaced that lost load with other new demand.

Today, the energy transition is well underway. The IESO is forecasting multiple different Pathways to Decarbonization, with winter peaks that could reach three times higher than those we experience today noting specifically with respect to DERs.

In the conclusions of the Pathways report, the fourth key conclusion from the IESO identifies "Break Down Regulatory Barriers" as including:[2]

> *Work with all levels of government and **with regulators to ensure that approaches to regulating the development of** new large infrastructure projects **and expanding the use of** CDM, **DERs, and other innovative technologies are appropriate given the scale and pace of the challenge ahead**.*

In this regard, the Pathways report notes that "*Coordination between the bulk and distribution systems is needed to ensure that this transition is reliable and efficient, and **to maximize the value of DERs**.*"[3]

Finally, at page 13 of the Pathways report:[4]

> *"**Distributed Energy Resources (DERs)***
>
> *DERs are distribution-connected facilities for local electricity generation, control and storage, and today represent at least 10,000 MW across the province. While the scenarios in this report did not distinguish between the province-wide transmission system and local distribution networks, DERs are included within the build-out of new resources.*
>
> *DERs can help meet regional needs where there are existing constraints on supply, avoiding or deferring the need to build transmission infrastructure.*
>
> *Local electricity market pilots in York Region and Essex are exploring ways to coordinate local supply to meet local needs. Recent research commissioned by the IESO shows that DERs*

[1] OEB Decision RP-1999-0044, Ontario Hydro Networks Company Inc., May 26, 2000, s.3.2, online: <https://www.oeb.ca/documents/cases/RP-1999-0044/dec.pdf>

[2] IESO, Pathways to Decarbonization, December 15, 2022, page 39 online: <https://www.ieso.ca/-/media/Files/IESO/Document-Library/gas-phase-out/Pathways-to-Decarbonization.pdf>

[3] *Ibid* at page 36.

[4] *Ibid.*

have the potential to help meet Ontario's future electricity demand, and they are gaining momentum in Ontario. Infrastructure, capability and knowledge building across the province are creating a solid foundation for growth, and the IESO is working to integrate DERs into the electricity markets by 2026 to further support their expansion across the province."

APPrO and ESC asked interrogatories to Hydro One Networks Inc. ("**Hydro One**") about the Background Report and in response to APPrO-ESC-1 stated that Hydro One is not an applicant but is a party to the proceeding just as APPrO and ESC are parties. Hydro One stated it was ordered by the OEB to prepare the Background Report to facilitate discussion in this proceeding, not to be a conduit through which all other parties put information on the record. APPrO and ESC do not take issue with Hydro One's position, however it is apparent that APPrO and ESC will need to proffer their own expert evidence as a result.

The constituent members of APPrO and ESC have significant interest in electricity transmission rates as connected customers to the transmission system and jointly retained Brady Yauch and Andrew Blair of Power Advisory LLC ("**Power Advisory**") to file expert evidence in this proceeding.

(a) Proposed Scope of Work

APPrO and ESC propose to file expert evidence from Power Advisory in this proceeding that will include the following:

1. Provide an overview of the issue of gross versus net billing in Ontario. This would include comments, analysis and the reasoning behind the initial adoption of gross billing in Ontario in the wake of the breakup of Ontario Hydro. The review will also consider subsequent hearings and reviews of gross versus net billing that have occurred since that time. The review is intended to provide a more detailed insight that the current background report filed by Hydro One as to why gross billing was initially adopted in Ontario to determine whether those conditions are still applicable to the current environment (discussed in the following points).

2. Provide an overview of various demand forecasts from Hydro One, the IESO, large LDCs and other potential sources, if applicable. The review will consider any growth estimates included in Hydro One's transmission rate application. The overview and analysis will focus primarily on capacity forecasts, as this is the main component in the gross versus net billing issue. The review will carefully consider the capacity needs facing the IESO, as this capacity need is vital in maintaining the reliability of the provincial-wide electricity. If required, the analysis will review various regional plans to determine forecasted capacity needs in different areas of the province. The evidence will consider whether gross load billing will lead to conservative capacity assumptions for new load customers and result in an overbuild of capacity across the electricity grid.

3. Provide an overview of current provincial and government policies regarding demand growth and broader electrification policies. This could include provincial policy documents, directives to the IESO, reports and analysis from the IESO and OEB, among others.

4. Provide a detailed cost analysis on the impact that gross versus net billing will have on the economics of a BESS and cogeneration facility. This will include high-level estimates of the

cost of a BESS and cogeneration facility. Compare the cost of a MW of capacity from a BESS or cogeneration facility to that of 1 additional MW of TX capacity included in any of Hydro One's regional plans or rate application.

5. Discuss potential billing options employed in other jurisdictions at a high-level, including net billing, contract and racket billing, and other potential options.

6. Provide commentary on the potential costs comparing gross billing, net billing and other potential solutions including overbuild costs, delayed connection costs and other the risk for stranded costs.

(b) Estimated Costs

Based on the scope of work outlined above, and subject to any issues raised by other parties in the proceeding, we anticipate expert costs in the range of $65,000 to $70,000. This estimate is based on recovery at OEB tariff rates. APPrO and ESC submit that the evidence of Power Advisory will contribute to a better understanding by the OEB of the issues in the proceeding and a combined intervention mitigates duplication of evidence. Accordingly, APPrO and ESC request eligibility for cost recovery in respect of their expert evidence.

(c) Qualifications of Brady Yauch and Andrew Blair

Attached as appendices to this letter are the CVs of Mr. Yauch and Mr. Blair. As is evident, Mr. Yauch and Mr. Blair have extensive experience with the issues in this proceeding, including electricity transmission rates and cost allocation.

Please contact the undersigned with any questions.

Yours truly,

BORDEN LADNER GERVAIS LLP

Colm Boyle

CB/

OEB STAFF DRAFT DETAILED ISSUES LIST
(APPrO and ESC Comments)

ISSUES 4 TO 6

April 29,2024

4. Charges caused by planned transmission outages

4.1 Should transmission charges be on a per delivery point basis, whereby the customer's charges would be calculated separately for each delivery point, or on an aggregate per customer basis, whereby the transmission charges would be calculated on the customer's aggregate demand for all delivery points for a given time interval?[5]

4.2 Should the definition of the transmission charge determinants, used to establish UTRs and bill transmission charges, be revised to exclude the impact of planned transmission outages on customers with multiple delivery points?[6]

4.3 Should double peak billing impact be tracked in a deferral account?[7]

5. Basis for Billing Renewable, Non-renewable and Energy Storage Facilities for Transmission Charges

5.1 Does gross load billing for transmission charges remain appropriate, whether in light of the energy transition or otherwise?

5.2 If yes, should gross load billing be adjusted to account for the benefits of embedded renewable and non-renewable generation and energy storage? If so, how?

5.3 Should application of gross load billing to embedded generator units be defined by generating unit or generating facility?[8] This includes refurbishments approved after October 30,1998, to a generator unit that existed on or prior to October 30,1998.[9]

5.4 Is additional clarity needed on the applicability of gross load billing thresholds to embedded generation that employs inverters (such as embedded solar generation)?[10]

[5] HONI Background Report on Issues 4 and 5/6, April 2, 2024 / Issue 4 / pages 7 and 8

[6] Ibid., page 9

[7] Ibid., page 11

[8] HONI Background Report on Issues 4 and 5/6, April 2, 2024 / Issues 5 and 6 / pages 15 and 16

[9] Ibid., page 20

[10] Ibid., page 17

5.5 How should the UTR schedule apply to energy storage facilities?

6. Gross load billing thresholds for renewable and non-renewable generation

6.1 What should the gross load billing thresholds be for renewable and non-renewable embedded generation?

6.2 Should gross load billing exemptions be available in certain limited circumstances?[11]

[11] Ibid., page 20

Andrew Blair
Manager, Regulatory

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SUMMARY

Andrew Blair is an energy sector professional with eight years of experience in energy regulation. His primary focus is economic price regulation, including cost allocation and rate design. He regularly prepares models, reports, and other written evidence for electricity and natural gas utility application filings and appears in regulatory hearings.

Prior to joining Power Advisory, Andrew was a Senior Consultant with Elenchus Research Associates. Andrew has been engaged in the energy regulatory process with a range of clients including utilities, consumer advocates, an electricity worker union, and industrial customers across multiple jurisdictions. Andrew provides cost of service support to 3 to 5 Ontario distributors annually, primarily in the areas of load forecasting, cost allocation, and rate design. He is also an instructor in MEARIE's Regulatory Specialist Certificate program in these areas.

His experience in economic price regulation extends beyond the energy sector to water utilities and setting quasi-governmental user fees. Andrew holds an MA in Economics from Carleton University and a BA in Economics and Financial Management from Wilfrid Laurier University.

Professional History

Power Advisory LLC, Manager, Regulatory, 2023- Present
Elenchus Research Associates, Senior Consultant, 2016-2023

Education

Carleton University, MA Economics, 2014
Wilfried Laurier University, BA Economics and Financial Management, 2012

PROFESSIONAL EXPERIENCE

Cost of Service and Tariff Design

- New Brunswick Power, prepared cost allocation evidence for annual general rate applications and rate design hearing. Contributed to expert reports on cost allocation issues and proposed methodology changes for NB Power. Appeared before New Brunswick Energy & Utilities Board in GRA and Rate Design hearings as NB Power subject matter expert in area of cost allocation.
- Ontario Energy Board, contributed to *Electric Delivery Rates for Electric Vehicle Charging* report which assessed rate design options for commercial EV fleets and public DC fast chargers.
- Montserrat Utilities Ltd., for an integrated resource plan, cost of service and tariff study led by HATCH, created a cost allocation model to attribute costs to electricity, water, and wastewater services and to rate classes within each service. Proposed changes to tariff structures.

- Burlington Hydro, prepared load forecast, cost allocation, and rate design models and evidence for cost of service application to OEB.
- Grimsby Power Inc., prepared load forecast, cost allocation, and rate design models and evidence for cost of service application to OEB.
- SaskPower, prepared rate design analysis for proposed standby rates in report submitted to the Saskatchewan Rate Review Panel. Prepared cost of service jurisdictional review of best cost allocation and rate design practices.
- EfficiencyOne Nova Scotia, prepared and revised long-term rate and bill impact analysis model for Nova Scotia demand-side management programs. Prepared cost allocation and savings allocation models.
- Bluewater, prepared load forecast, cost allocation, and rate design models and evidence for cost of service application to OEB.
- E.L.K. Energy, prepared load forecast, cost allocation, rate design, and benchmarking models and evidence for cost of service application to OEB.
- EPCOR Electricity Distribution Ontario, prepared load forecast, cost allocation, and rate design models and evidence for cost of service application to OEB.
- Greater Sudbury Hydro, prepared load forecast, cost allocation and rate design models and evidence for cost of service application to OEB.
- Lakeshore Utilities, prepared 40-year cost of service and bill analysis for prospective natural gas utility along the north shore of Lake Superior. Also prepared bill-smoothing and rate mitigation analysis.
- Hydro Ottawa, prepared cost allocation and rate design models and evidence for cost of service application to OEB.
- Hydro One Transmission, prepared report on export transmission service rates based on cost allocation between domestic and export services and appeared on expert panel on export transmission rates.
- Independent Electricity System Operator, prepared annual cost allocation and usage fee design models for revenue requirement submissions.
- Utilities Kingston, prepared electricity load forecast, cost allocation, and rate design models and evidence for Kingston Hydro's cost of service application to OEB. Also prepared water and wastewater cost allocation models and report for setting municipal water rates.
- Milton Hydro, prepared load forecast, cost allocation, rate design, and benchmarking models and evidence for cost of service application to OEB.
- Synergy North, prepared load forecast, cost allocation, and rate design models and evidence for cost of service application to OEB, including rate harmonization and rate mitigation plans for merging Thunder Bay Hydro and Kenora Hydro rate zones.
- Power Worker's Union, act as intervenor on behalf of the Ontario Power Worker's Union in OEB consultations and rate cases of large utilities with PWU-represented employees. Reviewed evidence, prepared interrogatories and submissions on behalf of the PWU in rate cases for Hydro One, Ontario Power Generation, Toronto Hydro, Alectra Utilities, and Elexicon Energy.
- MEARIE Regulatory Specialist Training – conducted training in areas of load forecast, cost allocation, and rate design for cost of service applications to employees of Ontario distribution utilities.

Brady Yauch
Senior Manager, Markets and Regulatory Affairs

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SUMMARY

An electricity market analyst and economist with more than 13 years of experience in energy market analysis and regulatory affairs. Focuses on in-depth analysis of the competitiveness and economic efficiency of wholesale energy markets and regulated utilities. Has appeared many times before the Ontario Energy Board, as an expert witness in arbitration and drafted evidence in a number of regulatory proceedings.

Professional History

Market Assessment Unit (MAU) IESO
Executive Director and Economist – Consumer Policy Institute (see below)

Education

York University, Masters Economics, 2012
University of Edinburgh, Masters, Cultural Politics, 2005

PROFESSIONAL EXPERIENCE

Market Competitiveness and Economic Efficiency

- Oversee Power Advisory's electricity price forecasts for Ontario – providing many custom forecasts for energy facilities across the province and revenue forecasts after the expiration of PPAs for a number of market participants. Also oversees price forecasts for Alberta, NYISO, ISO-NE, PJM and numerous vertically integrated utilities, particularly across Atlantic Canada. The price forecasts include capacity, energy and ancillary services. Numerous price forecasts have underpinned contract negotiations for PPAs between multiple parties.
- Provided expert evidence before the OEB regarding the province's Export Transmission Service tariff. The work included a detailed report and model highlighting the impact of increases to the ETS rate on total system costs in Ontario.
- Provided a detailed report to the Prince Energy Island Energy Corporation on various strategies for meeting future demand growth from non-emitting sources of supply. The analysis included a detailed dispatch and capacity expansion model, as well as a settlement model to determine total commodity costs for PEI ratepayers. The findings were presented to the Minister of Energy and other officials at the PEI Energy Corporation.
- Undertook an analysis on behalf of Electricity Canada regarding affordability of electricity and the potential cost of transitioning to a net zero electricity grid. The deliverable was a 30-page report to board of Electricity Canada. As part of the project, modelled the potential demand growth and cost of transitioning provincial electricity grids to a net zero grid. The modelling included a bill impact assessment for residential, commercial and industrial customers.

- Undertook a detailed review of a proposed BESS in New York City on behalf of the U.S. Department of Energy. The analysis included a detailed review of financial modelling and price forecasts developed by the project proponent, as well as our own price and capacity forecasts that were provided to the DOE.
- Developed a model for contract negotiations for a long-term PPA for a large hydroelectric facility. The project included, among other inputs, 20-year energy and capacity price forecasts for a publicly owned utility. The price forecasts included Ontario, NYISO, ISO-NE, New Brunswick and Nova Scotia. The engagement included multiple research projects and modelling assumptions, including demand growth, electrification investments and Levelized Cost of Energy (LCOE) calculations.
- Detailed forecasting of energy prices and demand growth across multiple Atlantic Canada jurisdictions. The forecasts were used to optimally size and site new non-emitting investment, as well as underpin potential PPA negotiations.
- Provided a detailed review of the British Columbia electricity sector and potential for future contracting.
- Undertook a pricing analysis for different wind sites in Alberta. As part of the analysis, various wind power curves were created to provide a wind-weighted price for different assets.
- Provided a risk analysis for NYSERDA regarding index REC contracts and future DA-LMPs. The analysis was used to better understand the future price risk of REC-index contracts signed by the public agency. As part of the engagement, a statistical tool was created to determine future pricing risk.
- Provided due diligence regarding a transmission-connected energy storage facility in Ontario. The analysis included a detailed review of the contract structure and future LMP pricing in Ontario. The analysis was used to determine the financial returns related to the project.
- Provided avoided cost analysis for a market participant in North and South Carolina. The project entailed a detailed review of supply and cost assumptions for the North and South Carolina electricity grids.
- Provided analysis for a study done for the IESO on the potential for Distributed Energy Resources (DER) in Ontario. The report was released by the IESO to stakeholders, government officials and other interested parties.
- Provided expert evidence in the federal tax court regarding electricity analysis and cost allocation. As part of the evidence, also provided a rebuttal. The evidence provided a detailed review of physical and financial structure of Ontario's electricity grid.
- Provided expert evidence as part of a private arbitration regarding energy retailers in Ontario and the current design of the province's wholesale electricity market. As part of the evidence, I provided testimony before the arbitrator.
- Led the drafting and analysis for a report on the interaction between nuclear and pumped storage hydro in Ontario on behalf of the Nuclear Innovation Institute. The report was eventually released to the public and provided to policy makers.
- Created a dispatch model for New Brunswick and a 10-year marginal price forecast as part of a proposed wind facility.
- Modelled the impact of increasing rooftop solar penetration in Ontario on wholesale prices, capacity prices and transmission constraints. The project was used to determine the viability of large-scale adoption of solar across the province.
- Led the modelling and drafting of a report on the future of gas-fired generation in Ontario for the Ontario Energy Association (OEA)
- Provided a ten-year model for integrating energy storage into Saskatchewan's energy grid.
- Modelled the impact of renewable capacity and transmission in NYISO.

- Oversaw the modelling for Ontario's move to Locational Marginal Prices (LMPs), Enhanced Unit Commitment and a Day-Ahead Market (DAM) for a consortium of gas-fired generators. Also modelled the financial impact to gas-fired generators as a result of the implementation of market design changes. Additionally, provided strategic advice on updated terms to contracts as a result of market design changes.
- Led a jurisdictional review of Pumped Generation Storage (PGS) facilities in the New York and New England wholesale markets. Reviewed market rules and dispatch efficiency of PGS facilities.
- Designed a settlement model for hydroelectric facilities in Ontario moving to LMPs. The modelling included monthly settlements for more than a dozen different hydroelectric facilities incorporating different shadow prices. The settlement model fully replicated the settlement process for contracted hydroelectric assets in Ontario.
- Designed a wholesale market model for Energy Storage Canada to determine the economic benefits of increased energy storage in Ontario. Led the drafting of subsequent report.
- Worked in the Market Assessment Unit (MAU) of the Independent Electricity System Operator, which undertook analysis for the Market Surveillance Panel (MSP).
    - As part of that work, provided an assessment on the economic efficiency of the offer behavior of hydroelectric plants in Ontario in response to a regulator-imposed incentive mechanism. Reviewed the efficiency of transmission rights payouts and recommended a market rule change.
    - Provided a detailed review of the competitiveness and economic efficiency of Ontario's wholesale market.
    - Reviewed a cost guarantee program for thermal generators and provided recommendations to improve its economic efficiency.
- Provided assistance in the MAU-led review of the Industrial Conservation Initiative in Ontario and contributed to the final report.
- Led the MAU's analysis and remarks regarding Ontario's Market Renewal Program (MRP).
- Provided public commentary on the IESO's Demand Response program and its effectiveness.
- Have provided multiple reports and opinion pieces on the economics of large-scale megaprojects across Canada.

Regulatory Affairs

- Led a detailed review of Standby Rates on behalf of a large LDC in Ontario. As part of the analysis and review, we designed an alternative to the OEB's current proposal for updating Standby Rates to include a Capacity Reservation Charge.
- Led a detailed review of the OEB's Cost Allocation Model (CAM) on behalf of a large LDC in Ontario. The review quantified a potential change to the CAM and the impact it would have on various rate classes as part of the CAM.
- Drafted IRs and argument for an intervenor (Assembly of Manitoba Chiefs) in Manitoba Hydro's 2022 interim rate application and 2023/24 General Rate Application. Provided strategic advice for all IRs, cross examination and argument.
- Drafted evidence on incentive regulation in Alberta for Enmax. The evidence included a detailed analysis on the impact of Performance Based Regulation (PBR) on the operation and investment decisions of distributors.
- Led the drafting of numerous chapters of a rate application by a LDC (Grimsby Power) before the OEB.

- Led a study for the Government of Northwest Territories on interruptible rates and incremental revenues for utilities. As part of the project, modelled NWT's electricity grid and the impact of incremental load through electrification investments.
- Led the drafting of a report for the Ontario Energy Association (OEA) on how programs could be designed to increase energy demand in Ontario and lower per unit costs.
- Designed a cost allocation model for an LNG plant in Northern Ontario.
- Participated in hearing regarding Enbridge Gas Distribution's proposed Renewable Natural Gas (RNG) Enabling Program and Geothermal Energy Service (GES) Program (EB-2017-0319). Led the drafting of interrogatories, cross examination and final argument.
- Participated in regulatory hearing to approve the merger of Enbridge Gas and Union Gas. Submitted evidence (jurisdictional review) in the proceeding (EB-2017-0306/07), as well as led the drafting of interrogatories, cross examination and final argument.
- Participated in a hearing in response to a motion from OPG to review its rate application decision (EB-2018-0085). Drafted the organization's submissions.
- Led an intervention in the proceeding for Hydro One's 2018 – 2022 distribution rates (EB-2017-0049).
- Drafted interrogatories and final argument for an intervenor in the OEB application by Union
- Gas for approval of its 2015 natural gas Demand Side Management (DSM) conservation programs (EB-2017-0323/0324).
- Participated as an intervenor and party to the settlement of Westario's application to the OEB to set its distribution rates in 2018 (EB-2017-0084)
- Participated in hearing for Hydro One Remote Communities 2018 revenue requirement and customer rates for the distribution and generation of electricity (EB-2017-0051). Led the settlement agreement and drafted all interrogatories for client.
- Drafted comments to the Ontario Energy Board modernization panel.
- Participated as an intervenor and party to the settlement of Union Gas' application for distribution, transmission and storage of natural gas rates (EB-2017-0087).
- Participated in a hearing to set Ontario Power Generation's 2017-2021 rates (EB-2016-0152).
- Drafted the final argument, interrogatories and led cross examination.
- Participated as in intervenor in the OEB hearing to set Hydro One's 2017-2018 transmission rates (EB-2016-0160). Drafted the final argument, interrogatories and led cross examination.
- Participated in hearing and settlement conference for the Independent Electricity System Operator's (IESO) 2017 fees application (EB-2017-0150)
- Participated in settlement conference for Enbridge's application to the OEB for the disposition of deferral and variance account balances (EB-2017-0102).
- Led intervention in the application from Five Nations Energy Inc. (FNEI) to the OEB to set its transmission rates for 2017-2020 (EB-2016-0231). Drafted the final argument, interrogatories and led cross examination.
- Participated in the community gas expansion hearing before the OEB (EB-2016-0004). Drafted the final argument, interrogatories and led cross examination.
- Participated in the hearing before the OEB regarding plans from Union and Enbridge to comply with the province's cap and trade program (EB-2016-0300).
- Participated as an intervenor and party to the settlement of Union Gas' application for distribution, transmission and storage of natural gas rates (EB-2016-0245).

- Participated in the hearing regarding Hydro One's application to the OEB to purchase Great Lakes Power Transmission (EB-2016-0050).
- Participated in the hearing and settlement conference in the IESO's application to the OEB to set its 2016 fees (EB-2015-0275).
- Participated in the hearing regarding Union and Enbridge's application for pre-approval of the cost consequences of a 15-year transportation contact (EB-2015-0166/EB-2015-0175). Drafted the final argument, interrogatories and led cross examination.
- Participated in the hearing to set Hydro One's 2015-2019 distribution rates (EB-2013-0416/EB-2015-0079). Transmission Facility Review and Pricing Proceeding Support

Expert Testimony

- Provided expert evidence before the Ontario Energy Board (OEB) on the impact of changing the Export Transmission Service (ETS) tariff. The evidence included a detailed report and model.
- Retained by the Justice Department to provide expert evidence on the design and structure of Ontario's electricity sector. The report was submitted to the court, as well as a rebuttal.
- Provided expert evidence as part of a private arbitration regarding energy retailers in Ontario and the current design of the province's wholesale electricity market. As part of the evidence, I provided testimony before the arbitrator.

Research and Publications

Academic

- Ontario's Electricity Market Woes: How Did We Get Here and Where are We Going, Energy Regulation Quarterly, July 2020

Op-eds

- Another megaproject pushing public utilities to the brink, *The Telegram*, September 30, 2017
- Government's mega utility projects spell mega-ruin, *Financial Post*, September 26, 2017
- Megaprojects like Site C bankrupt power utilities, *Vancouver Sun*, September 18, 2017
- Ontario's conservation program another corporate welfare handout, *Financial Post*, August 3, 2017
- Ontario's public power failure redux, *QP Briefing*, June 22, 2017
- How Queen's Park broke Ontario's provincial electricity sector, *Financial Post*, April 12, 2017
- Looking to lower Ontario power rates? Start with Pickering, where $550 million will be wastefully spent, *Financial Post*, March 29, 2017
- No prizes for guessing who's really to blame for Hydro One's soaring rates, *Financial Post*, January 6, 2017
- This time is different: OPG says its megaproject not like the others, *Toronto Star*, October 11, 2016
- How Ontario's 1 per cent can do its share to reduce fuel poverty, *Financial Post*, August 16, 2016
- A new debt retirement charge for Ontario electricity customers, *Financial Post*, April 27, 2016
- Queen's Park the biggest winner with cap and trade, *Hamilton Spectator*, March 23, 2016
- Ontario electricity rates fastest rising in North America, *Toronto Sun*, March 2, 2016
- Queen's Park moves to silence dissent on electricity, *Toronto Star*, January 4, 2016
- Ratepayers on the hook for Hydro, *Winnipeg Free Press*, December 23, 2015

- The Hydro One sale's upsides, *Financial Post*, November 5, 2015
- Debt, subterfuge will cost B.C. Hydro ratepayers, *The Times Colonist*, October 24, 2015
- Privatization perks, *Financial Post*, September 22, 2015
- A $2.6-billion stimulus for Ontario, *Financial Post*, August 12, 2015
- Much needed reforms could focus on Hydro One employees' pensions, *Financial Post*, April 24, 2015
- Achtung, Ontario! Renewables are a money pit, *Financial Post*, August 12, 2014
- While Canadians endured hardships during recent storms, customers in UK got compensated, *Financial Post*, January 7, 2014
- Why China's renewables industry is headed for collapse, *Financial Post*, December 10, 2013

Notable Media Appearances
- The Agenda,
- CBC, "On the Money"
- Many other TV and radio appearances, including BNN and CBC radio

Reports
- Multiple Monitoring reports by the Ontario Market Surveillance Panel
- How Megaprojects Bankrupt Public Utilities and Leave Regulators in the Dark, 2017
- Power Exports at What Cost? 2016
- Getting Zapped: Ontario's Electricity Prices Increasing Faster Than Anywhere Else, 2016
- Gone Too Far: Soaring Hydro Bills Offset Conservation and Hurt Conservers Most, 2015
- Falls Flat: Comparing the TTC's Fare Policy to Other Transit Agencies, 2015
- Corporate Welfare Goes Green in Ontario, 2014
- Toronto's Suburban Relief Line. 2014

Presentations
- Presentation to the Standing Committee on Natural Resources in the House of Commons
- Market Monitor conference Austin Texas, 2029, Reviewing Ontario's Industrial Conservation Initiative
- Presentation to Northwind conference, 2018, How megaprojects bankrupt utilities.

Work Experience

Senior Manager – Markets and Regulatory, Power Advisory, August 2022 – Present

Manager – Markets and Regulatory, Power Advisory, March 2020 –August 2022
- Collaborate on Power Advisory's market and regulatory work for clients across North American jurisdictions.
- Particular expertise on the interaction between rate regulation and wholesale markets.
- Lead on Power Advisory's custom electricity price forecasts for Ontario
- Provide detailed analysis and modelling for a range of market participants in Ontario and other wholesale markets

Senior Analyst – Markets Assessment and Compliance Division (MACD), the Independent Electricity System Operator**,** September 2018 – February 2020

- Senior Analyst with the Market Assessment Unit (MAU) within Market Assessment and Compliance Division (MACD).
- Oversaw research and investigations in Ontario's electricity market for the Market Surveillance Panel (MSP).
- Wrote and performed research for semi-annual monitoring reports published by the MSP.
- Provided analysis and research in public forums – both internally to MACD and to external stakeholders.
- Gained an in-depth knowledge of both the Ontario wholesale electricity market and markets in other jurisdictions.

Economist and Executive Director – Consumer Policy Institute, July 2013 – September 2018

- Oversaw research activities for the Consumer Policy Institute.
- Was a consultant for regulatory hearings at the Ontario Energy Board (OEB), in which I reviewed and commented on evidence presented by public utilities. I have submitted multiple papers to the OEB on a range of topics, such as pension reform, revenue decoupling, natural gas expansion and distributor rate applications. I have cross examined many witnesses and executives regarding energy issues in Ontario.
- Have appeared numerous times on both television and radio to discuss energy and other economic topics. My research has been quoted extensively by experts, lawmakers and the media
- Write analysis reports and articles for media outlets. I have several recent opinion pieces published in national newspapers.
- Oversee the work of interns and other employees at Energy Probe Research Foundation.

Online Reporter, Commentator and Editor – Business New Network, December 2010 – July 2013

- Wrote and edited all content published on BNN.ca, with a particular focus on economic issues.
- Attended lockups for budgets and interest rate announcements and published breaking stories.
- Notable articles include: "Canada's lost decade in manufacturing," "The rise and fall of
- Canadian exporters" and "More Fed action likely, but will it work?"
- Managed the outlet's website and came up with ideas for new columns and ways to present our content.
- Interviewed leading analysts, officials and other commentators on economic, political and business issues.

Researcher and Policy Consultant – Energy Probe Research Foundation, April 2009 – December 2010

- Performed economic, financial and political research on economic, policy and energy issues.
- In-house specialist on European carbon credit markets. I helped build and maintain the first, and only (at the time), online database of carbon credit projects. I was often called upon to explain the carbon credit market to reporters, other policy groups and policy makers.
- Engaged with policy makers through interviews and reports.

Freelance Writer/Reporter – January 2009 – Present

- Wrote articles for a variety of publications, including: ***Washington Post, China Daily, BlogTO, Building.ca*** and other trade magazines. Articles often provided commentary on major issues.
- Research involved searching through government databases, company reports, interviewing specialists and conducting other studies.

Producer, Writer – Brookshire Media, Toronto ON, January 2008 – December 2008

- Reported on and investigated financial markets -- including commodity markets, equity markets and currency markets.
- Wrote and edited articles on both financial markets and international politics.

Editor – Corp Tax, Chicago, IL, September 2006 to February 2007

- Wrote internal reports.
- Explained tax policies and forms to clients.