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**DELIVERED BY EMAIL & RESS**  
**Registrar@oeb.ca**

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

Dear Ms. Marconi:

**Re: Generic Proceeding on UTR-Related Issues and the Export Transmission Service  
("ETS") Rate Board File No. EB-2021-0243 ("Proceeding")  
APPrO Intention to File Expert Evidence**

We write on behalf of our client the Association of Power Producers of Ontario ("APPrO") in response to the Ontario Energy Board's ("OEB") Procedural Order No. 1 issued on November 30, 2021 ("PO#1") to advise the OEB that APPrO proposes to file expert evidence in the Proceeding.

As explained in its notice of intervention, APPrO members are significant exporters of electricity. Export costs, including the ETS tariff, are an important matter to the APPrO membership.

APPrO has coordinated this proposal with various other parties representing the same interests.

If approved by the OEB, APPrO proposes to engage Mr. Travis Lusney and Mr. Brady Yauch of Power Advisory (the "**Proposed Experts**") to provide expert evidence in this Proceeding (the "**Proposed Expert Evidence**"). Curriculum vitae for Mr. Lusney and Mr. Yauch are attached to this letter as Appendix "A". The Proposed Experts have considerable expertise in matters that will likely form the subject of this Proceeding, such as energy market analysis, regulatory affairs, generation development, system planning, market assessment and energy policy analysis.

The Proposed Expert Evidence would include a brief summary of the evidence filed on the record in this and prior ETS proceedings, however the principal focus of the evidence would be to prepare a statistical analysis on the sensitivity of Ontario exports to price changes, together with an analysis of the impact of such price changes on intertie congestion revenues and the other ratepayer benefits derived from exports.

In Section 4 of the IESO report titled *Market Implications of the Export Transmission Service Rate* dated July 2021,<sup>1</sup> the IESO provides a *qualitative* assessment of the implications of increases in the ETS rate on various ratepayer benefits including Intertie Congestion Pricing (“ICP”).

The Proposed Expert Evidence would seek to introduce a *quantitative* assessment of these implications, based on principles of statistical modelling and clearly articulated assumptions, to better inform the OEB of the potential implications of changes to the ETS rate.

The Proposed Experts would be asked to provide evidence to help the OEB answer questions like:

- *What is likely to happen to ICP revenues and other ratepayer benefits if the ETS rate is increased to \$6.07/MWh?*
- *What is likely to happen to ICP revenues and other ratepayer benefits if the ETS rate is decreased to \$0/MWh?*
- *What is likely to happen to ICP revenues and other ratepayer benefits if the ETS rate is maintained at the status quo of \$1.85/MWh?*

The Proposed Expert Evidence will provide a clear and more robust evidentiary basis upon which the OEB can then make informed decisions on each of the issues set out in the Approved Issues List. Specifically, both the first and second issues on the Approved Issues List demonstrate an interest by the OEB in determining whether, and if so how, the ETS rate should continue to exist along side ICP. The OEB’s determination on both of these issues will be better informed following its consideration of the Proposed Expert Evidence.

All of the matters set out in Rule 13A of the OEB’s *Rules of Practice and Procedure* would be addressed in the Proposed Expert Evidence. The Proposed Experts would be available to prepare interrogatory responses, and attend a technical conference as currently contemplated in PO#1.

APPrO has forecasted an incremental costs award for Power Advisory’s work in preparing its Proposed Expert Evidence in this Proceeding of approximately \$35,000 (not including disbursements or taxes). As external legal counsel to APPrO, we estimate an incremental cost award of approximately \$10,000 in legal fees (not including disbursements or taxes) if the OEB were to approve the Proposed Expert Evidence.

In arriving at these estimates, APPrO has assumed that it will fund any incremental costs associated with the Proposed Expert Evidence that are attributable to the difference between the market rates for the Proposed Experts and its legal advisors and the applicable OEB tariff for cost awards. The amount APPrO is proposing to fund related to the Proposed Expert Evidence exceeds the forecasted incremental cost award amount.

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<sup>1</sup> See Attachment 3 of the joint submission from Hydro One Networks Inc. and the Independent Electricity System Operator regarding the ETS rate filed October 14, 2021.

To-date, no other party has proposed filing expert evidence in the Proceeding. In this context, APPrO submits that its Proposed Expert Evidence will not be unduly repetitive of evidence presented by another participant in the Proceeding.

If you have any questions or concerns, please do not hesitate to contact me.

Yours very truly,

**BORDEN LADNER GERVAIS LLP**



John Vellone

cc: David Butters, APPrO  
Parties to EB-2021-0243

Encl.

Appendix "A"

**Appendix “A” – CVs of Proposed Experts**

## **Travis Lusney**

Manager, Procurement and Power Systems



### **Power Advisory LLC**

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Toronto, ON M5J 2H7

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### **SUMMARY**

Mr. Lusney is a Professional Engineer (P.Eng) with over 15 years of experience working in both the commercial and regulated areas of the electricity sector. Mr. Lusney is a knowledgeable industry leader with a focus on electricity grid analysis, generation development, energy storage resources, market assessment, regulatory & policy analysis, and risk mitigation. Mr. Lusney is a former distribution and transmission planner with a deep expertise in power system planning and resource integration.

Mr. Lusney joined Power Advisory after a position as the Senior Business Analyst of Generation Procurement at the Ontario Power Authority, where he was responsible for management and development of the Feed-In Tariff program. Prior to joining Generation Procurement, Mr. Lusney worked as a Transmission Planner in Power System Planning at the Ontario Power Authority where he was actively involved in regional transmission planning, bulk system analysis and supporting system expansion procurements and regulatory procedures. Mr. Lusney also worked for Hydro Ottawa Limited as a Distribution Engineer responsible for reliability analysis, capital budget planning, power system planning, and project management. Mr. Lusney offers a unique understanding of the similarities, differences and interactions between different power system network components and economics.

### **Professional History**

Power Advisory LLC (2011-Current)

Ontario Power Authority (2008-2011)

Hydro Ottawa Limited (2006-2008)

### **Education**

Queen's University

MSc Electrical Engineering, 2007

BSc Electrical Engineering, 2004

## **PROFESSIONAL EXPERIENCE**

### **Power System Planning**

- Lead a jurisdictional survey on behalf of the Independent Electricity System Operator (IESO) on five core initiatives: bulk system planning process, regional planning and non-wires alternatives, customer reliability, end-of-life assets, and competitive transmission procurement. Jurisdictional survey included developing a detailed survey tool and performing over 50 interviews with represents from the around the world including all US Northeastern ISOs, CAISO, system operator and regulator in the UK, system operator, regulator and market operator in Australia, as well as multiple distribution and transmission facility operators. The lessons learned from the analysis were used as an input into a comprehensive overhaul of the IESO's planning methods.
- Representative for Non-Wires Solutions clients on the Regional Planning Process Advisory Group (RPPAG) at the Ontario Energy Board (OEB). The RPPAG is to review and provide recommendations for implementation of regional planning process changes identified by the IESO's regional planning process review report. In addition to RPPAG responsibilities, represented Non-Wires Solutions at various stakeholder engagement sessions on regional planning and bulk system planning in Ontario and Alberta.
- Prepared multiple power system outlook to determine future resource needs and potential investment opportunities for supply resources. Analysis included reviewed and commentary on resource adequacy, operability needs, transmission integration, customer reliability and broad regulatory framework. The power system outlook considered key areas of risk assessment, supply development scenarios, investment opportunities based on connection capability and project economics by supply type.
- Supported the analysis and drafting of expert evidence for arbitration between a vertically integrated utility and an independent power producer in Western Canada. The evidence included analysis of power system, treatment of energy output from generation resources, capability to export and import energy from neighbouring jurisdictions, and curtailment options for generation output.
- Acted as a witness in Hydro One's transmission rate filing, an Ontario transmitter, providing an assessment on transmission loss in regulation in other jurisdictions and how transmission losses are included in power system planning decisions, including how those losses are related to conservation and demand management initiatives.
- Expert witness in power system planning and solar generation development for litigation between international investment bank and large Canadian law firm. Reviewed evidence and prepared expert evidence in response to findings. Provided testimony to superior court of Ontario as expert witness.
- Provided strategic advice and power system analysis to generation development and energy storage resource clients on connection capability of proposed generation projects. Assisted clients in determining optimal project location and estimation of connection cost for different interconnection options. Review of Impact Assessments for multiple clients to assess project operations risks and potential future power system constraints. Estimated reliability of supply for load customers or deliverability for supply resources. Worked with clients to amend or adjust impact assessments to resolve or mitigate project risks.
- Consulting resource for a First Nation community to review and comment on a System Impact Assessment for a mining development nearby. Analysis focused on the impact to the community's reliability and determine potential options to resolve service quality concerns. Reviewed evidence filed by the mining developer and transmitter (i.e., Hydro One) to determine system constraints and potential options for removing or mitigating the constraint.

- Reviewed and prepared commentary for the 2020 New Brunswick Power Integrated Resource Plan (IRP). The review included preparing analysis for supply resource decisions, assessing the impact of a potential federal ghg equivalency agreement for continued operation of the Belledune coal-fired generation facility and other power system component analysis.
- Assisted in leading engagement with distributors, transmitters and system operators for variety of clients. Engagement included determining interconnection options, assessing connection risks and establishing timelines and milestones to support overall project development.
- Supported analysis for the Integrated Power System Plan (IPSP) dealing with bulk and regional system considerations, including reliability assessment. Developed regional integrated plans for constrained areas. Lead stakeholder consultation with local distribution companies, regulatory agencies, transmitters and local government officials to develop 10 to 20-year plans and activity coordination.
- Represented through expert evidence and testimony the Utility Consumer Advocate Alberta during Transmission Rate Tariff hearing in front of the Alberta Utility Commission as an expert witness on transmission planning and cost allocation.
- Advised and supported a major gas generation procurement for the Province of Ontario. Work included analysis of regional power system needs and constraints. Assisted in the development of evaluated criteria considerations.
- Developed procedures and policy for system connection assessment under the Feed-In Tariff program, in particular lead the development of the Transmission Availability Test (TAT) and Distribution Assessment Test (DAT) used to assess connection capability. Oversaw development of custom database to support the connection assessment process and coordination with over 80 local distribution companies. Managed staff for regional system analysis as part of the Feed-In Tariff program to determine connection capability for contract awards.
- Lead a study on Distributed Generation impacts and opportunities in the major urban centers as part of a long-term energy plan. Lead analysis on behalf of the Ontario Power Authority to determine the distribution generation potential in Central and Downtown Toronto along with the associated cost to develop the distributed generation resources. Worked closely with the local distribution companies, city officials and key stakeholders in understanding specific and general barriers and benefits.
- Developed capital work planning process for Asset Management department to ensure accountability and situation and issue identification. Lead the development of the capital budget and work plan for all distribution projects including a 25-year capacity plan for Distribution rate filing. Oversaw capital project tracking and reporting metrics to ensure accountability and transparency for senior management requirements.
- Managed reliability statistical reporting as part of regulatory requirements and senior executive requests. Involved in evolution of information gathering methods and worst feeder identification. Lead reliability engineer working closely with planning, design and construction personnel in identifying issues and resolution members. Chair of the asset management committee which oversaw the expectations of future capital sustainment work and associated risk levels.
- Involved in the development of the distribution and station asset management plan as key support for distribution Rate filing. Involvement included preparing financial analysis, reviewing rate-filing materials, presenting to senior executive teams and coordinating internal team analysis and responses.

## Strategic Investment and Risk Assessment

- Lead the development of Ontario wholesale electricity price forecast for multiple clients. Clients were provided with a description of wholesale price formation in Ontario. The forecasts include a description of assumptions and methodology based on assessments of power system fundamentals, government policy and Ontario's regulatory framework. Performed sensitivity analysis and scenario assessment to support a wide variety of investment and risk assessments.
- Financial and technical due diligence for generation and energy storage resource acquisition/sales. Due diligence includes detailed electricity market assessment, multiple scenarios of electricity price forecasts, analysis of input costs and risk factors for project economics. Provided summary and commentary on recent regulatory and policy activities that could impact project economics. Prepared financial models for different project arrangements and capital structures, performed sensitivity analysis and stress-testing results for clients. Hosted meetings with clients to respond to feedback and questions and ensure client understands risks and opportunities.
- Prepared analysis and opportunities for siting of new resources over multiple jurisdictions with focus on Ontario and Alberta. Analysis reviewed and assessed regional system plans and bulk system plans. Report to clients identified priority locations for developing new resources (e.g., energy storage, renewables, and gas-fired generation) based on technical, community and market price factors. Clients includes asset owners, financial entities, and technology providers.
- Strategic guidance for investments in energy storage solutions in Ontario. Advice included detailed summary of Ontario's electricity market and assessment of opportunities for energy storage solutions along with identification of primary risks to potential revenue streams. Calculated value stacking opportunities and discounts for providing multiple electricity services from a single energy storage resource. Provide an overview and assessment of regulatory and policy structure impacting energy storage resources. Clients for this service included project developers, technology providers, load customers, financial investors, and insurance companies. Energy storage technology types included battery-based, compressed air, pumped hydro, flywheel, novel technologies and thermal energy storage.
- Primary consulting resource for New Jersey Resources (NJR) in preparing responses and analysis for the community solar initiative in New Jersey. Lead discussion and analysis with senior leadership team including researching activities in other jurisdictions, potential marketing cost impacts and commentary on potential community solar program procedure requirements. In addition, prepared multiple energy storage use case analysis for NJR existing and future assets.
- For multiple clients provide market monitoring services for jurisdictions across Canada. Market monitoring includes following and analyzing electricity market developments, policy initiatives and regulatory activities. Prepared regular agendas and analysis for clients customized for their specific business and needs. Lead discussion and completed action items following meets to assist customers in maintaining and enhancing their business.
- Led the creation of a GHG marginal emissions factor analysis and tool to estimate the potential GHG emissions reduction potential for distributed combined heat-and-power (DCHP) applications in Ontario. Analysis included detailed assessment of Ontario power system outlook and calculations of marginal emission factor based on electricity market operations and supply. Prepared a model to assess the GHG emissions saving potential for different DCHP applications.



- Led the completion of an energy storage market assessment across select US jurisdictions. The report included a summary of existing and potential regulatory and policy structures for energy storage in each jurisdiction. Prepared a financial model for each jurisdiction and compared return expectations for different energy storage applications. Provided a summary of energy storage projects in service or under development within each market.
- Prepared and hosted strategy and information session for a district energy corporation. The workshop focused on the Ontario electricity market, participation of district energy, regulatory framework and market design changes, and future outlook. Attendance was from multiple departments including finance, regulatory, business development, operations and legal. Subsequently hired to provide wholesale price forecast in support of ongoing strategy support
- Lead the assessment of connection capability of renewable generation for the City of Swift Current and their local distribution company Swift Current Light & Power (SCLP). Estimate the future cost of renewable generation for comparison to future SaskPower wholesale electricity rates. In addition, SCLP requested an outlook on the battery-based energy storage system (BESS) market and the potential for deployment of BESS to support the integration of renewable generation within their distribution system. The assessment concluded that both solar generation and wind generation were viable options for SCLP.
- Building on the feasibility assessment, assessed the capability of the SCLP distribution system to become self-sufficient using a combination of renewable generation and other resources. Self-sufficiency for the purpose of the assessment was the ability to supply all electricity consumptions needs of the SCLP system on an hourly basis. SCLP would remain connected to the SaskPower transmission system and therefore receive power quality and reliability services from SaskPower. Power Advisory assessed two self-sufficiency scenarios to determine the appropriate mix of wind and solar generation installed capacity. The No Export Scenario assumes no excess energy will be delivered to the SaskPower transmission system. The 60% Back-feed Scenario assumed a reasonable amount of excess energy could be exported in any given hour (the amount of export capability was the technical back-feed limit determined in the feasibility assessment report).
- Review, analysis and commentary on regulated and unregulated of comparable LDCs for a large Ontario distributor. Analysis included detailed modeling of capital spending patterns of multiple LDCs and assessment of differences between spending focus and system plans.
- Advising generation developers on new competitive procurement processes and determining strategy to help ensure successful participation while reduce exposure to risk. Participated in consultation and stakeholder engagement as an expert in transmission planning, procurement design, and proposal bid development.
- Provided detailed analysis of operating gas-fired generation facilities as part of potential asset sale. Analysis included modeling financial returns, assessment of operational risks. Provided a summary of technical requirements and opportunities the facilities could provide the power system currently and in the future.
- Working with renewable energy developers (mainly wind and solar PV) to plan, construct and successfully reach commercial operation for projects with long-term. Work includes assessment of project risk, investment opportunities, development strategy, solutions for connection issues and advice for securing construction approvals and permits.
- Completed due diligence on project economics, connection capability and estimated generation operating performance for wide range of generation types as part of strategic acquisitions. Services included analysis of natural gas delivery, operation restrictions and government policy drivers.

- Analyzed the Long-Term Transmission Plan (LTP) for Alberta and developed a comprehensive forecast of Capital Expenditures over the planning time period (2014-2032). The forecast includes an estimate of Development Capital Expenditures by project and region over the three time periods considered in the LTP. Estimated Capital Expenditures for General Plant and Sustainment based on the growth expectations of Alberta's transmission rate base. The analysis provides a detailed view of the long-term trend for capital investment in Alberta's transmission system and includes an alternative scenario for lower economic growth and oil sand development.
- Working with manufacturers of solar PV and wind generation components regarding strategic advice and solutions to meet Provincial content requirements and ultimately increase their market share.
- Constructed a quantitative project attrition model for projects with FIT PPAs to determine opportunities for future investment for clients. The model determined probabilistically which contracted FIT projects were at risk of failing to reach commercial operation and identify where new connection capacity would become available.

## **Supply Resource Procurement and Contracting**

- Retained by the City of Edmonton to assist in assessing the options to purchase green electricity (i.e., electricity from sources that do not emit carbon dioxide). Scope of work involved analyzing renewable electricity technologies and contracting options available to the City. Specifically, the City is interested in: assessing the cost of wind, solar, and biomass (biogas and landfill gas) technologies; determining the supply need and renewable generation resource potential to meet the 100% green electricity objective; and an overview of contracting models and summary of potential risks for the City
- Part of the Procurement Administrator for the Marine Renewable energy procurement to secure novel tidal resources in the Bay of Fundy. Supported engagement with perspective proponents and discussions with government agencies. Prepared request for proposal documents and power purchase agreement terms.
- Retained by Alberta Climate Change Office (ACCO) to prepare detailed design recommendations for a community generation program. The recommendations included eligibility requirements for proposed projects and evaluated price methodology to stack proposals in order of their relative value, with the ranking within the stack used to award contracts to successful applicants. Proposed contract provisions, payment structure and an outline of responsibilities for successful applicants in developing, constructing, operating and maintaining a community generation facility.
- Acted as the Independent Administrator for the Atlantic Link Solicitation. The solicitation process was initiated for energy to be bundled with transmission capacity on Emera Inc.'s proposed Atlantic Link submarine electricity transmission project for the delivery of clean energy into the ISO-New England market. As the Independent Administrator, provided assurance to proponents and the Federal Energy Regulatory Commission (FERC) as to the fairness and transparency of activities related to the Atlantic Link energy solicitation.
- Technical expert for the Alberta Infrastructure (AI) solar RFP. Provided analysis and strategic guidance on program design, commercial agreement provisions and stakeholder engagement. Assisted the evaluation team in the review and assessment of proposals submitted to the RFP including evaluation of technical requirements for participation and assisting in evaluated cost bid price assessment.

- Provide to select clients detailed competitor assessment for clean energy procurements including relative cost of capital analysis, capital cost estimates, procurement strategy, contract risk assessment, bid preparation and quality review of submissions.
- Prepared a framework for a unique demand response program for a district energy system. The program design included key qualifications for customers, methodology for calculating incentive structure, program administration requirements and presented draft terms for demand response service agreement.
- Technical expert for procurement participation for a variety of resource developers including renewables and energy storage. Provided detailed analysis and assessment of procurement process and documentation including strategy for development of proposed projects to maximize opportunities within the Request For Proposal (RFP) and Contract in the multiple procurement processes.
- Worked as the Renewable Electricity Administrator in Nova Scotia responsible for the developing and administering a Request for Proposal (RFP) process to procure over 300 GWh of low impact renewable energy. The process included engagement with stakeholders, development of an RFP document and Power Purchase Agreement and filing the Power Purchase Agreement for regulatory approval with the Nova Scotia Utility and Review Board On August 2nd 2012, after completing the evaluation of all 19 proposals that were submitted, the process successfully concluded with the execution of 355 GWh of contracted facilities.
- Provided support to Non-Utility Generators (NUGs) in negotiations with the Ontario Power Authority for extension of existing Power Purchase Agreement. Support included economic dispatch analysis, development of net revenue requirement pro formas to determine contract value, leading negotiation and providing strategic advice.
- Modeling procurement mechanics and Ontario system characteristics for renewable energy developers to establish a strategic direction for successfully securing power purchase agreements. This work included modeling connection capability within both the distribution and transmission system and assessing attrition risk of currently contracted and under development projects. Responsible for development and ongoing management of the standard offer Feed-In Tariff program for Renewable Energy. Involved with a wide range of stakeholders including project developers, manufactures, investors, regulatory agencies and Government. Analyzed ongoing project costs and market rates to update and maintain Feed-In Tariff price assumptions. This work included analysis of supply chain evolution, equipment providers capability and assessment of project economics.
- Involved in domestic content development within the Feed-In Tariff program as chair of the Domestic Content Working Group. Advised and clarified expectations for project developers and manufactures in understanding the domestic content requirements.

## **Regulatory and Policy**

- Technical consulting resource for Ontario Sustainable Energy Association (OSEA) participation in multiple Ontario regulatory proceedings. Regulatory proceedings included Enbridge Integrated Resource Plan (IRP), Enbridge Multiple-Year Demand-Side Management (DSM) application, Enbridge Annual Supply Plan 2021, and Ontario Power Generation 2022-2026 Rate application. As technical consultant, reviewed materials, prepared analysis and questions for applicants, prepared submissions on behalf of OSEA and participated in technical conference on various subject matters.

- Supported many clients in the participation of stakeholder engagements for potential evolution of regulatory framework in multiple jurisdictions. Support included analyzing proposed design changes for electricity markets, regulatory structures, and legislation. Assisted clients in preparing for stakeholder meetings and submissions. Acted on client's behalf in stakeholder engagements and provided strategic advice to clients on how best to position feedback and alternatives where warranted.
- Supported Energy Storage Canada (ESC) Alberta working group in the Alberta Electric System Operator (AESO) Bulk & Regional Tariff Design with focus on energy storage resources. Attended stakeholder sessions, prepared commentary and submissions on behalf of working group and performed analysis of preferred and alternative rate designs.
- Involved in an energy storage valuation report for Energy Storage Canada. The report summarized and calculated the benefits energy storage resource deployment in Ontario could provide to customers both quantitatively and qualitatively. Lead the analysis of transmission & distribution system investment deferral and direct-to-customer benefits. Support analysis on wholesale market savings. Presented to leadership council, working group and general membership at Energy Storage Canada.
- Supported for a consortium of clients the analysis of substation cost allocation for potential cost sharing between distributed connected generation and load customers within a distribution network in Alberta in response to the AESO pursuit of sub-station fractioning. The AESO had proposed and received initial regulatory approval to seek cost recovery from distributed connected generation for use of existing connection assets to the Alberta transmission system. Researched cost and design differences between load customer and generation customer substation design, prepared approach with justification for cost allocation and presented to consortium and the AESO during stakeholder engagement sessions.
- Prepared a detailed submission on behalf of Energy Storage Canada (ESC) for the Alberta Utilities Commission (AUC) Distribution System Inquiry (DSI) Module One. Module One focuses on the impact of innovative and emerging technologies impact on distribution system design, operations, capital requirements and cost of providing services. In addition, Module One seeks to understand the opportunity for new market entry within the monopolistic franchise. Reviewed, researched and analyzed multiple jurisdictions and energy storage technology types to support drafting of the submission. Prepared a presentation for the Module One technical conference and participated in the technical conference on behalf of ESC.
- Drafted a discussion paper and presentation on co-location of energy storage resources with renewable generation resources. The discussion paper outlined the benefits and barriers for co-location projects, provided an overview of ongoing policy & regulatory activities, identified options to address barriers and provided near-term recommendations.
- Consulting resource for the Electricity Distributor Association (EDA) on the analysis and preparation of a best practices discussion paper for evolving the Ontario connection process for distributed energy resources. Engaged with EDA members and DER proponents to determine best practices, barriers and opportunities. Lead the drafting of the discussion paper, engagement with stakeholders for feedback and assisted in preparing presentation to board of directors.
- Supported research, consultation with Electricity Distributor Association (EDA) members and drafting of the report entitled *Power to Connect: A Roadmap to a Brighter Ontario*, which identified the challenges and barriers within the statutory framework, and proposed solutions, with respect to the transition of LDCs to "Fully Integrated Network Orchestrators". The report provided detailed analysis of Ontario's regulatory framework, market design, and organizational structure.

- For multiple clients provided strategic advice on evolution of electricity regulatory framework including electricity market design, legislation, regulation, system codes and approval processes. Clients include Canadian Solar Industrial Association, Canadian Wind Energy Association, Association of Power Producers of Ontario, Energy Storage Canada, Energy Storage Canada, Quality Urban Energy Solutions of Tomorrow (QUEST) and federal and provincial government agencies & ministries.
- Developed a discussion paper on the barriers to development of load-displacement energy storage applications in Ontario. The paper detailed the benefits of energy storage for customers and the power system as a whole. The paper described key barriers restricting the ability to adopt energy storage solutions and proposed multiple regulatory framework changes that would reduce or remove the barriers based on experience in other jurisdictions and reflecting the unique Ontario electricity market.
- Performed analysis of industrial rate design options in Ontario for Canadian Solar Industries Association (CanSIA) to determine the potential impact to net-metered solar generation and energy storage applications. Analysis modeled eight different rate design options over a ten-year forecast period. The avoided cost revenue from the industrial rates were then used in a financial model to assess the potential returns for each option.
- Review, analysis and drafting of responses on behalf of the Association of Power Producers of Ontario (APPRO) and Canadian Solar Industries Association (CanSIA) to the Ontario Energy Board (OEB) for Residential distribution rate design and Commercial & Industrial distribution rate design. The analysis included assessment of impact on customers and suppliers economics, review of rate design in other jurisdictions, and identification of appropriate rate design that benefits rate-payers and distributed energy resource suppliers.
- Primary consulting resource for CanSIA's Distributed Generation Task Force (DGTF). The DGTF objective included developing a customer-based generation model for solar generation after the conclusion of the Feed-In Tariff (FIT) program in Ontario (post-FIT solution), to identify transitional changes to the existing FIT program to support the post-FIT solution and to support solar market growth in the long-term. Responsible for jurisdictional review to identify best practices for customer based solar generation, technical and policy analysis to support the post-FIT solution and development of recommendation report and accompanying communication plan with key stakeholders.
- Co-leader of Solar Development Evolution Working Group which has participation and support from key solar PV project developers, EPC firms, asset operators and owners. The mandate of the working group was to develop policy for a long-term customer centric procurement approach for solar PV generation and identify priorities for transition of the existing FIT program.

## **Selected Speaking Engagements**

- Energy Storage Canada 2020: Panelist – View from Alberta
- Engineering Insurance Conference (AEIC 2019): Speaker -Energy Storage: Game Changer
- Canadian Wind Energy Conference 2019: Speaker -Hybrid Wind Energy Project Opportunities in Canada
- Energy Storage Canada 2019: Panelist - Markets and Regulations - Frameworks on the Move
- Alberta Utilities Commission Distribution System Inquiry Module One Technical Conference: Speaker - Energy Storage Resources
- Energy Storage Canada 2018: Speaker – Behind-the-Meter Storage for Commercial and Industrial Applications

- Energy Storage Canada 2018: Keynote Speaker -How Market Reforms are Driving Energy Storage Opportunities, April 2018 (Toronto) and June 2018 (Calgary)
- CanWEA Spring Forum 2017: Panelist - What lies ahead in Ontario and Quebec the low demand future, April 2017
- APPrO Conference 2016: Panelist - The evolving connection assessment and planning process in Ontario, November 2016
- Canadian Energy Research Institute (CERI) 2016 Electricity Conference: Ontario – A Case Study of Retail Price Impacts, October 2016
- Solar Ontario 2016: Moderator for panel on Ontario Electricity Market Renewal Implications for Solar Generation, May 2016
- Clean Energy BC - BC Generate 2015: Panelist on Overview of Canadian Renewable Energy Markets, November 2015
- CanWEA 2015: Panel Member on Wind Generation Integration in Canadian Wholesale Electricity Markets, October 2015
- Solar Ontario 2015: Panel Member on Lessons Learned for the Large Renewable Procurement, May 2015
- Green Profit 2015: Plenary Panel Member on The Future is Now: The Economic Case for Renewables, March 2015
- CanSIA's Solar Canada 2014: Panel Member on Setting Precedents for the Future of Solar Distributed Generation Utility Programs, December 2014
- CanSIA's Solar Ontario 2014: Moderator on Balancing Supply: A look inside Ontario's Electricity System during Peak Demand on July 17, 2013, May 2014
- CanSIA's Solar Ontario 2013: Presenter and Moderator on Electricity Consumer Empowerment – Enabling Distributed Solar Power Generation, May 2013
- Ontario Feed-In Tariff Forum: Panel Member on Barriers to Connection Solar Projects at the Local Level, April 2012
- EUCI's 3rd Annual Conference on: Ontario's Feed-In Tariff, June 2011
- 4th International Conference on Integration of Renewable and Distributed Resources, Albuquerque, December 2010
- OSEA Community Power Conference, November 2010

### **List of Expert Testimony**

- Ontario Energy Board, Hydro One Network Inc's Leave to Construct Application for Merivale to Albion Line Reconductoring, Transmission Loss Analysis and Capacity Expansions Analysis (March 2021)
- Ontario Energy Board, Hydro One Networks Inc's 2017/2018 Transmission Revenue Requirement & Rate Application (EB-2016-016), Transmission Loss Reduction Options (December 2016)
- Alberta Utilities Commission, Alberta Electric System Operator's 2014 General Tariff Application (Proceeding 2718), Proposed Approach for Designating Transmission Projects (February 2014)

## **Brady Yauch**

Manager Markets and Regulatory



### **Power Advisory LLC**

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## **SUMMARY**

An electricity market analyst and economist with more than 11 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.
- Provided a risk analysis for NYSERDA regarding index REC contracts and future DA-LMPs.
- Provided due diligence regarding a transmission-connected energy storage facility in Ontario.
- Provided avoided cost analysis for a market participant in North and South Carolina.
- Provided expert evidence in the federal tax court regarding electricity analysis and cost allocation. As part of the evidence, also provided a rebuttal and was cross examined.
- 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.
- 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.

- 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.
- 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**

- Drafted IRs and argument for an intervenor (Assembly of Manitoba Chiefs) in Manitoba Hydro's 2022 interim rate application. Provided strategic advice for all IRs, cross examination and argument.
- Drafted evidence on incentive regulation in Alberta for Enmax.
- 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 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 contract (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

## 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**

*Manager* – Markets and Regulatory, Power Advisory, March 2020 – Present

- 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.