# Request for Proposals for

# Outside Consultant

# for Entergy Louisiana, LLC's Upcoming Request for Proposals for Standalone Battery Storage System Resources

*A Proposal Prepared for Louisiana Public Service Commission*

*by London Economics International LLC*

**December 5, 2025**


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**December 5, 2025**

Louisiana Public Service Commission
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**Re:** ***RFP 25-14, Docket TBD, Entergy Louisiana, LLC, ex parte. In re: Request for Proposals for Stand-alone Battery Energy Storage System Resources.***

Dear Ms. O'Brian and Ms. Bowman:

Please find attached London Economics International LLC's ("LEI") proposal to serve as an outside consultant and assist the Louisiana Public Service Commission ("LPSC" or "the Commission") Staff in its review of Entergy Louisiana, LLC's ("ELL") upcoming Request for Proposals ("RFP") for standalone battery energy storage system ("BESS") resources.

LEI offers a total indicative budget of $164,500 which includes professional fees and estimated travel, other direct costs, and an indicative budget to support formal proceedings and expert testimony, see Section 6 for more details. LEI is uniquely qualified for the role of independent consultant. LEI has worked on energy procurement projects for both utilities and regulators and has a comprehensive mastery of the entire procurement process, from the initial phases of design and stakeholder consultation, through qualification, implementation, and bid evaluation. The firm's work in procurement process design and analysis spans the spectrum of wholesale and retail products, and includes engagements supporting unit-contingent contracts, energy-only block products, renewable energy certificates, full requirements service, stand-alone capacity products, and other energy-related instruments.

We are confident that LEI can provide the LPSC staff with the expert, independent, and objective advice needed to navigate this critical procurement and ensure it aligns with Commission orders and the public interest. We look forward to the opportunity to discuss our proposal with you further.

If you have any follow-up requests or questions with respect to this submission, please do not hesitate to reach out to me at the contact information below.

Sincerely,

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# 1 About LEI

LEI is a global economic, financial, and strategic advisory professional services firm specializing in energy, water, and infrastructure. The firm combines a detailed understanding of specific network and commodity industries, such as electricity generation and distribution, with sophisticated analysis and a suite of proprietary quantitative models to produce reliable and comprehensible results. LEI has access to extensive US data sets and previously developed models for both rate and macroeconomic analyses. As shown in Figure 1, LEI's array of clients extends from the private sector to market and government institutions; we listen to and understand the perspectives of various stakeholders.

**Figure 1. Select LEI clients throughout the world**


LEI has a reputation as a provider of thoroughly grounded, independent analysis. LEI is active across the power sector value chain and has a comprehensive understanding of the issues faced by investors, utilities, and regulators alike. LEI's areas of expertise include (i) price forecasting and asset valuation; (ii) regulatory economics, performance-based ratemaking, and market design; (iii) expert testimony and litigation consulting; (iv) transmission and distribution; (v) renewable energy; and (vi) procurement. Figure 2 graphically presents LEI's areas of expertise.

**Figure 2. LEI's areas of expertise**


The following attributes make LEI uniquely qualified to serve as an independent consultant specifically for LPSC's RFP:

- LEI has significant **experience serving as an independent procurement evaluator/monitor and regulatory process auditor**, as well as supporting regulatory proceedings on integrated resources plans ("IRPs") in North America, including in the MISO region;
- LEI has **worked on various projects involving BESS resources,** from developing revenue forecasts, performing due diligence of BESS projects, to reviewing battery storage agreements ("BSAs");
- LEI team members have **recent experience providing advisory services to US state commissions**, as well as electric and gas utilities. Over the past three years, LEI has acted as Independent Evaluator to Idaho Power Company's resource procurement processes (2026 All Source RFP and 2028 All Source RFP) and PacifiCorp's 2025 renewable RFP;
- LEI team members have **practical experience with true development costs** for a range of conventional and renewable resources, as well as for transmission; and
- LEI is highly familiar with the energy market in Louisiana thanks to involvement on various projects for auditing of ELL and Cleco Power, as well as serving as the technical consultant for a renewable tariff option and Integrated Resource Planning reports of ELL, Cleco Power, and Southwest Electric Power Co. over the past few years.

# 2 Understanding of the scope of work

On November 4, 2025, ELL filed a notice letter with the LPSC indicating its intent to issue an RFP for standalone BESS resources. The draft RFP is expected to be issued no earlier than December 15th, 2025, and the final RFP will be issued at least 60 days after the issuance of the draft RFP. ELL has engaged with Merrimack Energy Group, LLC ("Merrimack") to serve as the independent monitor for the procurement process. The LPSC will work with ELL to develop the RFP with support from an outside consultant.

## 2.1 ELL's RFP for standalone BESS resources

The RFP will be open to resources in the Midcontinent Independent System Operator, Inc. ("MISO") Local Resource Zone 9 ("LRZ-9"). ELL is expected to market test standalone BESS to be located in the Southeastern Louisiana Planning Area, monitored by Merrimack. Throughout the RFP process, one or more resources are expected to be selected by ELL.

## 2.2 Role of outside consultant for assistance of Commission staff's participation in ELL's RFP

LEI understands that the LPSC requires expert consultant services to assist Commission staff in ELL's RFP process and any certification proceeding arising therefrom. The tasks to be performed by the consultant include participation in technical and bidders' conferences, review of and comment on draft documents, informal meetings, preparation of a report upon completion of the RFP process, coordination with the independent monitor, and any other steps necessary to ensure a fair and reasonable RFP process. Moreover, the consultant will review any certification application and provide regulatory and testimony support, including 1) drafting data requests, 2) analyzing data responses, 3) attending both formal and informal conferences, 4) preparing testimonies and exhibits, 5) assisting in trial preparation, and 6) drafting briefing sheets and orders of the LPSC. The engagement will continue through the conclusion of the certification docket.

## 2.3 Governing LPSC orders and market realities

LEI recognizes the complexities involved in this undertaking, which will be governed by several key LPSC orders and market realities:

- **LPSC MBM Order:** The process will be primarily guided by the LPSC's Market-Based Mechanisms ("MBM") Order, significantly amended by General Order No. 10-14-2024 (R-34247) dated October 14, 2024. We understand these amendments introduce critical changes, including requirements for RFPs to be "constructed as broadly as possible" to solicit "all available market options" (conventional, intermittent, hybrid), a formalized pre-RFP docket with an objection process for resource type, location, or size, and specific triggers for an independent monitor. ELL notes that while LPSC's MBM Order does not apply to BESS resources, as they do not provide generating capacity, ELL intends to use many of the processes and procedures provided for in the Order to ensure that a robust

and fair market-based solicitation is performed. LEI is prepared to assist Staff in ensuring ELL's RFP meet the expectations.

- **LPSC 1983 General Order**: The LPSC's General Order dated September 20, 1983 ("1983 General Order) states that no jurisdictional electric utility should commence any on-site construction activity or enter into any contract for construction without first having applied to the LPSC for a certification. The results and analysis from employing the MBM Order serve as part of the jurisdiction requirement under the 1983 General Order. The 1983 General Order was amended on May 27, 2009, to allow for more expeditious certifications of limited-term resource procurements and an exception for annual and seasonal liquidated damages block energy purchase.

- **LPSC Resource Adequacy General Order (R-36263):** The recently issued General Order dated July 16, 2024 (R-36263) establishes formal Resource Adequacy Obligations for Louisiana Electric Utilities in MISO, requiring annual demonstrations and targeting 90% of the MISO Planning Reserve Margin Requirement ("PRMR") by 2029. This order will directly influence the quantity and types of qualified capacity resources ELL must procure. LEI will lean on the order to assess the relevance of and compliance of bids eligibility requirements (contained in the RFP document) with the state's rules.

- **Other Key LPSC Orders:** Our assistance will also be informed by the LPSC's 1983 General Order concerning the certification of public convenience and necessity, the IRP General Order (R-30021), the LPSC General Order on Consultant Selection (R-33197), and principles of fuel cost recovery (U-21497).

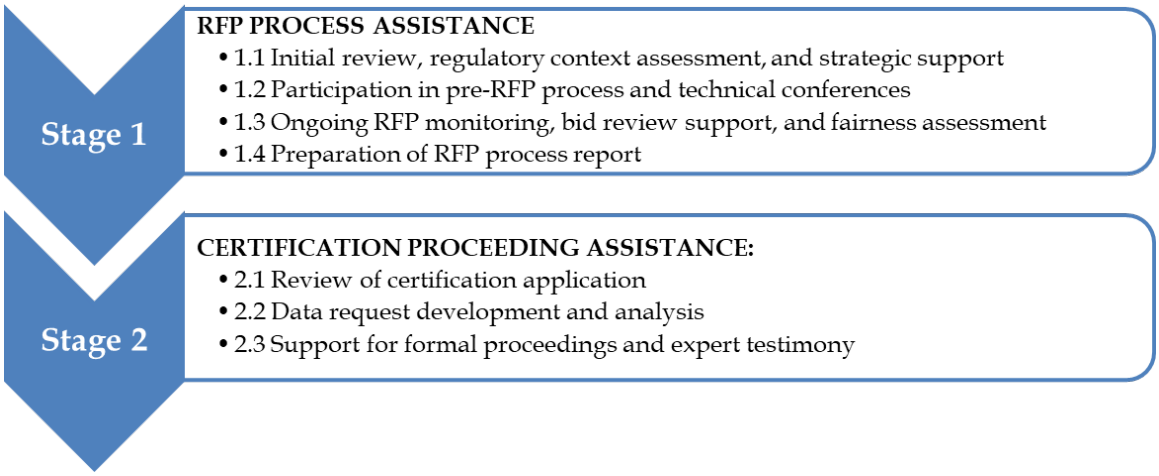
- **MISO Market Context:** ELL operates within MISO, and its RFP will seek MISO-deliverable resources, including Zonal Resource Credits ("ZRCs"). LEI understands MISO's resource adequacy construct, including its seasonal approach, the Planning Resource Auction ("PRA"), Seasonal Accredited Capacity ("SAC"), and the requirements for converting SAC to ZRCs, including deliverability (Network Resource Interconnection Service - "NRIS"/Energy Resource Interconnection Service – "ERIS"). It is worth noting that LEI is very familiar with and up to date on with MISO's resource adequacy rules thanks to its work developing a simulation of MISO Planning Resource Auction ("PRA"), which reflects the regional resource adequacy construct, MISO's market rules, and the PRA mechanisms. LEI relies upon that model to support clients with capacity price forecasts.

# 3 Proposed methodology

LEI proposes a comprehensive two-phase plan of action to assist the LPSC staff in its review of ELL's RFP for standalone BESS resources and any subsequent certification proceedings, as outlined in RFP-25-14. Our approach is designed to be flexible and collaborative, ensuring LPSC staff receive timely, expert support at each stage. The Commission and its staff will ultimately determine how tasks are carried out, including setting internal deadlines.

The plan of action is summarized in Figure 3 below. In alignment with what LPSC noted in the RFP for this engagement, LEI understands that the LPSC and its staff will have the right to determine how these tasks will be carried out.

**Figure 3. LEI's proposed plan of action**




LEI's key findings will be summarized in the form of reports to the LPSC. Moreover, in the course of this engagement, LEI senior staff will confer with the LPSC staff in the form of periodic calls and by e-mail, and will be available to attend meetings related to any certification proceeding arising from the RFP. LEI senior staff will also meet with the LPSC in Louisiana as needed throughout the process.

## 3.1 Stage 1: RFP Process Assistance (Estimated 8 months)

- ***Task 1.1: Initial review of RFP documentation, regulatory context assessment, and strategic support***
    - Thoroughly review ELL's draft RFP documents, its 2023 IRP, as well as other relevant documents, to identify key intricacies and ensure consistency between the RFP documentation (including the actual RFP document) and the 2023 IRP. The review of the RFP documents will focus on key aspects of the RFP including, RFP statement, target volume and eligible technologies, bids minimum eligibility requirements (to assess how risks of project feasibility, deliverability and financing are mitigated), interaction with stakeholders (frequency and timing), evaluation

process and selection mechanisms (evaluate the fair and non discriminatory nature of the process), standard agreements, bidding fees, credit requirements etc.

- Analyze the draft RFP for consistency with the LPSC's MBM Order, although compliance is not required.
- Assess consistency with other relevant LPSC orders, including the 1983 General Order on certification, the IRP General Order (R-30021), and the new Resource Adequacy General Order (R-36263).
- LEI will combine findings from its review along with best practices drawn from its recent experience as an independent evaluator to present LPSC Staff with an initial assessment report, highlighting potential areas of concern, opportunities for strengthening the RFP, and strategies to attract economical and viable bids.

- ***Task 1.2: Participation in Pre-RFP process and technical conferences***
  - Actively participate in technical conferences related to ELL's informational filing and draft RFP.
  - Assist LPSC staff in reviewing ELL's informational filing and draft RFP documents submitted under the new Pre-RFP docket process outlined in the 2024 MBM Order.
  - Support staff in evaluating any objections filed concerning the type, location, or size of resources solicited, as per Rule 14 of the 2024 MBM Order.
  - Provide expert advice to staff on the adequacy of ELL's responses to stakeholder input and objections.

- ***Task 1.3: Ongoing RFP monitoring, bid review support, and fairness assessment***
  - Review the final RFP documents issued by ELL and provide findings to the Staff.
  - Participate in bidders' conferences as required by LPSC staff, take notes, and share observations in debrief meetings with Staff.
  - Provide support to staff in ensuring the RFP process is conducted in a fair and reasonable manner, consistent with LPSC orders. This includes reviewing evaluation methodologies and their application.

- ***Task 1.4: Preparation of RFP Process Report***
  - Upon completion of the RFP process, prepare a comprehensive report for LPSC staff, summarizing the process, LEI's participation, key findings, and an assessment of the fairness and reasonableness of the RFP process. The report will integrate the various memos prepared for staff throughout the project (from the review of the draft RFP to the review of submitted bids), along with LEI's overall assessment of the process.

## 3.2 Stage 2: Certification Proceeding Assistance (Estimated 10-12 months)

This phase is contingent upon ELL selecting project(s) from its RFP and filing for certification with the LPSC.

- ***Task 2.1: Review of certification application(s)***
    - Thoroughly review certification application(s) filed by ELL, including all accompanying testimony, exhibits, and supporting documentation.
    - Assess the application's compliance with the 1983 General Order, the MBM Order, the Resource Adequacy Order, and other applicable LPSC rules and public interest criteria.

- ***Task 2.2: Data request development and analysis***
    - Assist LPSC staff in drafting comprehensive data requests to ELL and other parties as necessary.
    - Analyze responses to data requests to ensure completeness and to identify key issues for further investigation or testimony.

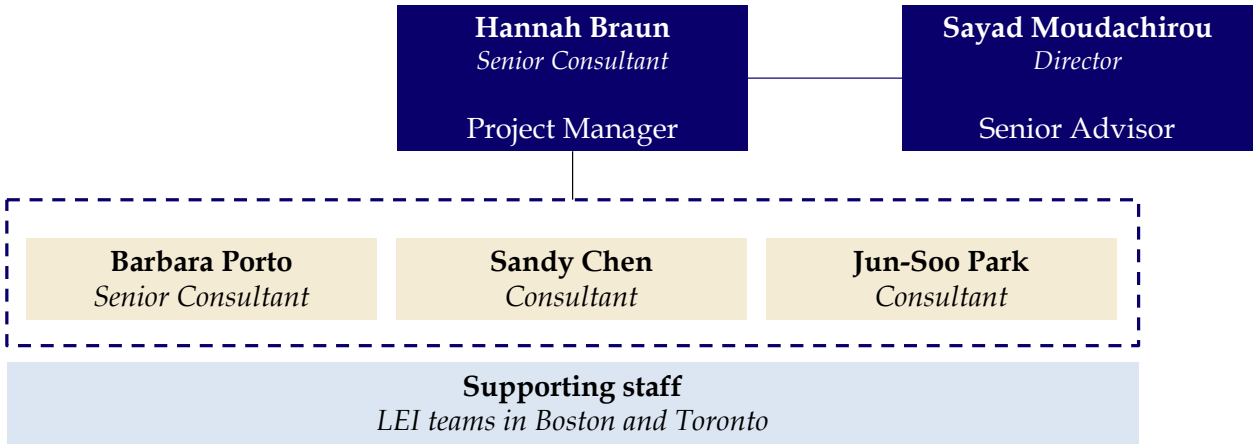
- ***Task 2.3: Support for formal proceedings and expert testimony***
    - Participate in formal status conferences, pre-trial conferences, depositions, and hearings (contested or uncontested) as required by LPSC staff.
    - Provide expert analysis and advice to staff throughout the proceeding.
    - If required, LEI is prepared to draft and render expert testimony on issues relevant to the RFP process, bid evaluation, resource economics, and compliance with LPSC orders, and be cross-examined on such testimony.

# 4 Proposed project team

LEI has assembled a highly qualified team of subject matter experts and experienced consultants. Team members have served as independent monitors of energy supply auctions and have advised on the competitive procurement of energy for governmental entities, industrial users, and electric utilities. The team possesses considerable independent assessment expertise, analytical and technical capabilities, and a strong understanding of power markets, including MISO. Again, this experience enables us to start the assignment immediately with a clear understanding of the tasks that need to be accomplished, the order in which tasks should be prioritized, and the challenges that might arise.

**Sayad Moudachirou**, a Director at LEI with almost two decades of experience in energy policy, market transformation, strategic investment, and procurement. Sayad will act as the **Sr Advisor** and key point of contact for ELL; he will be in charge of overseeing the RFP process and the certification process, and will lead all deliverables and completion of project milestones. **Hannah Braun** will serve as **Project Manager,** handling day-to-day communication with stakeholders. Hannah has 10 years of experience in research and consulting for the energy sector, with a focus on power market assessments and regulatory and ratemaking regimes. Sayad and Hannah will also be supported by **Barbara Porto**, Senior Consultant, **Sandy Chen**, Consultant, and **Jun-Soo Park**, Consultant, in the overall monitoring and assessment of the RFP process and regulatory and testimony support. In addition to these core team members, LEI may utilize other junior and senior staff to assist in research and analysis, as needed. Brief bios of the team members are provided below, and resumes are detailed in Appendix 1 (Section 8).

**Figure 4. Organizational chart**




**Sayad Moudachirou,** Director at LEI, has significant experience managing large, complex and long-lasting projects. Sayad has been involved in many of the firm's high profile regulatory cases spanning such diverse issues as market design (at both Regional Transmission Organization ("RTO") and state levels), competitive procurement, cost-benefit analysis, performance-based ratemaking (for a dozen jurisdictions), market power mitigation, utility governance, and auction design (including competitive solicitations for procurement). Mr. Moudachirou leverages his

expertise in energy regulatory economics to educate market participants on market fundamentals and provide technical assistance and thoughtful insights into their operations, strategy, and decision-making process. His expertise in the power sector includes regulatory framework gap analysis, policy design and impact analysis, due diligence on commercial transactions, strategic planning, renewable asset management, as well as value stacking and assets valuation. Sayad has extensive experience establishing regulatory frameworks for the deployment and operation of both conventional and renewable technologies.

More recently regarding procurement engagement, Sayad is leading the LEI team assigned to evaluating PacifiCorp's 2025 Washington Situs Renewable RFP ("2025 WASitus RFP"). He was also a key member of the LEI team who served as IE for Idaho Power Company ("IPC") 2026 all-source energy and capacity resources RFP ("2026 RFP") and led the subsequent IPC 2028 RFP. Specifically, Sayad led a series of activities for both IPC RFPs including: a review of the RFP; the facilitation and monitoring of communications between the utility (IPC) and bidders; the performance of independent initial shortlist evaluation (ranking bids based on price, and on non-price characteristics such as bidder credit-worthiness, ability to meet the commercial online date, evidence of interconnection, and evidence of site control ); the scoring of bids (which involved use and vetting of the offeror's cost-benefit models and screening models, including scenario analysis and stochastic risk analysis). He also led the independent evaluation of the offeror's final shortlist, the preparation of status reports and the final draft of the IE closing report.

**Hannah Braun** is a Senior Consultant at LEI and will serve as **Project Manager** for this engagement. She will coordinate the different workstreams, engage with LPSC and manage participation in each stage of the RFP, including technical and bidders' conferences, review of and comment on draft documents, informal meetings, preparation of a report upon completion of the RFP process, and any other steps necessary to ensure a fair and reasonable RFP process. Hannah has worked on a vast array of projects ranging from regulatory and ratemaking design to the economic evaluation of large new infrastructure projects and the assessment of procurement and solicitation processes and resource contracting for both private investors and the public utility sector. In LEI's recent engagement with the Oregon Public Utilities Commission ("OPUC"), Hannah critiqued the utility's RFP design and proposed suggested edits to ensure clarity for bidders and conformity with the utility's acknowledged Integrated Resource Plan ("IRP"); reviewed hundreds of bidder documents to independently assess bidder eligibility; evaluated the utility's draft initial and final shortlists; and supported her colleagues in drafting LEI's various IE reports and in communicating key recommendations to the utility and/or OPUC via email or conference calls. Hannah brings to the table her eye for detail and ability to remain organized—both important traits to manage the hundreds of bids that may come through in the resource procurement process. Hannah is also part of the team working on the 2025 WASitus RFP where the LEI team serves as an IE throughout the solicitation process.

**Barbara Porto** is a Senior Consultant at LEI. She supports the firm's technical engagements with regulators, utilities, and private equity firms on issues regarding market design, project evaluation, wholesale price analysis, and utility management/performance auditing. Barbara has been deeply involved in several of LEI's audit engagements, where she has led numerous

assignments with the Louisiana Public Service Commission on matters related to the audit of ELL and Cleco Power. Also, Barbara led the review of financial models and the utility's selection model in both IPC's 2026 All-Source RFP and 2028 All-source RFP. Barbara was also a lead analyst for LEI's engagement as IE for PacifiCorp's 2017 Solar RFP. Barbara managed the information gathering and summarizing process of the project; this involved the review of over 100 bids and associated documents from bidders—which was instrumental to independent scoring and evaluation.

**Sandy Chen** is a Consultant at LEI. She has applied her analytical and research skills to a variety of projects, ranging from market analysis, regulatory and ratemaking reviews, and quantitative modeling. Sandy has been involved as an analyst supporting bids review, screening, and evaluation on engagements in which LEI served in the role of IE. Sandy was part of the LEI team that worked on the IPC's All-Source RFPs (2026 and 2028) and is currently working on the 2025 WASitus RFP.

**Jun-Soo** serves as a Consultant at LEI, where he has been employed since July 2023. In his role, Jun-Soo takes on the primary responsibilities of modeling for the MISO market, engaging in various projects that encompass both qualitative and quantitative research. Jun-Soo is familiar with MISO's regulatory framework, including rules related to ratemaking and resource adequacy planning. Jun-Soo has been involved in IPC's 2026 and 2028 RFPs and PacifiCorp's 2025 WASitus RFP.

# 5 Relevant experience

The experience presented below represents a small sample of LEI's relevant work. Further details are available on request.

## 5.1 Experience designing and (or) managing competitive procurement processes

LEI team members have advised on the competitive procurement of energy for governmental entities, industrial actors, as well as electric utilities, independent power producers, and energy merchant firms. In many cases, the advisory role started at the initial stages of RFP design and contract drafting. In many of these projects, quantitative analysis of the bids and selection of the winning bids were part of our mandate. Team members have also advised on the advantages and disadvantages of various auction formats for the sale of electricity contracts and other derivative instruments, as well as the sale of physical assets.

- ***IE for PacifiCorp's 2025 WASitus RFP:*** LEI was hired by PacifiCorp to serve as Independent Evaluator for its 2025 Situs RFP ("2025 AS RFP") for Washington. The RFP was issued to address needs identified in the 2025 IRP for Washington customers. The 2025 IRP estimated a need for as much as 900 megawatts of generation resources primarily to satisfy Washington Clean Energy Transformation Act ("CETA") compliance, and 1,385 megawatts of storage to primarily satisfy the Western Resource Adequacy Program ("WRAP"). The role of LEI as the IE was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly, in compliance with Washington procurement rules. LEI was tasked to carry out a thorough independent review, evaluation, and scoring of all submitted bids, including bids with conditional firm transmission (in accordance with Order 03 in Washington Utilities and Transportation Commission Docket No. UE-250460.), and to compare its findings to PacifiCorp's.

- ***IE for IPC's 2028 all-source energy (including storage) and capacity resources RFP:*** LEI was hired by IPC to serve as an IE for its 2028 all-source energy (including storage) and capacity resources RFP ("2028 AS RFP"). The 2028 AS RFP was a bifurcated procurement process issued to facilitate the sourcing of competitively priced resources capable of being commercially operational no later than the summer of 2028 (first sub-process or Group 1), and beyond (second sub-process or Group 2). The resources were needed to ensure IPC could address the needs identified in its latest Integrated Resource Plan (2023 IRP). Group 1 and Group 2 procurement processes were conducted in sequence over the span of a year. The role of LEI in each process was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly in congruence with the Oregon bidding rules. LEI was to ensure there was no bias in the procurement process, in particular a "self-build" bias that unjustly favors utility-owned resources. Moreover, LEI was tasked to develop a thorough evaluation process reflecting the procurement guidelines and apply it consistently to all resource bids received. Finally, LEI was requested to assist with OPUC with the monitoring of contract negotiations (all contracts associated with the winning bids). LEI's role consisted of documenting progress on key contract terms, reporting on

unexpected challenges and issues, and providing a detailed review of the process leading to contract agreement (or the termination of negotiations)

- ***IE IPC's 2026 All-Source RFP for Peak Capacity and Energy Resources:*** LEI was hired by IPC to serve as an Independent Evaluator for its 2026 all-source energy (including storage) and capacity resources RFP ("2026 AS RFP"). The 2026 AS RFP was being issued to facilitate the sourcing of competitively priced resources capable of being commercially operational no later than June 1, 2026. The resources were needed to ensure IPC could address the needs identified in its latest IRP (filed on December 30, 2021). The role of LEI as the IE was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly in congruence with the Oregon competitive bidding rules. LEI was to ensure there was no bias in the procurement process, in particular a "self-build" bias that unjustly favors utility-owned resources. Moreover, in addition to serving as an overseer of the procurement process, LEI was tasked to carry out a thorough independent review, evaluation and scoring of all submitted bids (consistent with Oregon's competitive procurement guidelines), and compare findings to IPC's.

- ***IE for PacifiCorp 2017S RFP:*** LEI was engaged by PacifiCorp to serve as IE for its system-wide 2017 Solar RFP to ensure that the procurement process was competitive, fair, and managed according to procurement best practices such that the resulting acquisition of solar resources is price competitive. The project involved a review PacifiCorp's draft RFP, including the rationale underlying PacifiCorp's approach, pertinent regulatory rules, statutory objectives, past local practice, industry practice, and assessing the reasonableness of the proposed approach. LEI also reviewed the sample contract to ensure its commercial reasonableness, i.e., whether it provided for an efficient allocation of risks between the utility, its customers, and the project sponsors (e.g., reasonable force majeure terms, warranties, and liquidation damages). LEI ensured that PacifiCorp's evaluation process was conducted in a fair and unbiased manner and that the bids included in the initial shortlist ("ISL") and final shortlist ("FSL") represented the best value considering both price and non-price factors, from all the bids received during the RFP process. The RFP was for delivery in PacifiCorp's PACW (California, Oregon, and Washington) and PACE system (Idaho, Utah, and Wyoming).

- ***Independent Monitor for Entergy New Orleans***: LEI was engaged to act as the independent monitor for Entergy New Orleans' solicitation of a Third-Party Administrator to implement and deliver conservation and demand management programs on behalf of the utility. LEI oversaw the bid receipts, as well as the review and selection process. A final report was provided outlining the fairness of the overall process.

- ***Independent Monitor on behalf of the Utah Public Service Commission***: LEI was part of a consortium serving as the independent monitor on behalf of the Utah Public Service Commission ("PSC") for a PacifiCorp renewable solicitation process. This process included: review of the solicitation process, documents, and modeling methodologies; monitoring, auditing, and validation of bid evaluation process; bid evaluation; and

contract negotiation. Final report and testimony were filed with the UT PSC [Public Utility Commission of Utah, Docket No. UM1368].

- ***IE to Pacific Gas and Electric***: LEI was part of a pool of consultants to the Pacific Gas and Electric Company's Independent Evaluator to monitor long-term resource solicitations that may involve affiliate, utility-owned or utility-turnkey bids and for all competitive solicitations seeking products greater than two years in length. Specifically, LEI worked with PG&E to ensure that offers were evaluated consistently and appropriately in accordance with the solicitation protocol and in accordance with applicable rules and processes of the California Public Utilities Commission ("CPUC"). The following activities were performed by LEI team:

    - review and comment on the fairness and appropriateness of PG&E's evaluation methodology.
    - review and report on whether PG&E fairly administered and implemented its evaluation methodology.
    - review and report on whether the outreach that PG&E conducted to potential natural gas storage industry participants (Participant) was adequate and whether the solicitation was robust.
    - identify whether any Participant in the RFO received undue information or failed to receive due information, that advantaged or disadvantaged a Participant unfairly.
    - provide to PG&E, PG&E's Procurement Review Group ("PRG"), and the Energy Division of the CPUC presentations of the IE's findings. Participate as needed in any PRG and/or supplier meetings or teleconferences concerning this solicitation.
    - prepare the IE report for inclusion in any Advice Letter filings.
    - be available to testify as an expert witness in any CPUC proceeding regarding review of potential natural gas supply transactions arising from the RFO; if appropriate, prepare direct and rebuttal testimony, respond to data requests, and perform other activities required to testify as an expert witness.

- ***Fairness Monitor for Ontario Power Authority's ("OPA") evaluation of "launch period" Feed-in Tariff applications***: The team aided in the design of the evaluation framework and provided on-going support during the evaluation process. LEI prepared a final report that outlined LEI's opinion as to the fairness of the overall process.

- ***Evaluation of applications to the Aboriginal Renewable Energy Fund:*** As part of this role, LEI was responsible for independently evaluating applications received. A stand-alone due diligence report was prepared for each application. In addition to a general description of the project, the reports provided a review of:

    - the eligibility of the project under the Feed-in Tariff ("FIT") program;

- grid connection opportunities and issues;
- property and resource control;
- management capabilities and experience;
- resource availability (e.g., wind speed, solar irradiance, fuel, etc.);
- technology and equipment considerations; and
- financial and economic considerations.

As part of the financial and economic considerations LEI developed a financial model to assess a range of possible equity returns available to the project under varying assumptions.

- ***Auction Monitor for CT DPUC Transitional Standard Offer:*** LEI was hired by the Connecticut Department of Public Utility Control ("DPUC") to oversee the Transitional Standard Offer ("TSO") auction by Connecticut Light and Power ("CL&P") for its load (more than 5,000 MW peak demand) in 2005 and 2006. The scope of the project included approving the RFP and communication protocol, participating in all bidder calls and negotiations, analyzing the New England market and developing scenarios for likely bids, and verifying CL&P's decision-making process for selecting winning bids. LEI also provided testimony to the DPUC based on its assessment of the auction process and its accordance with DPUC principles of competition.

- ***Review of procurement process for Delaware Public Services Commission:*** In 2015, LEI performed a review of the procurement process for the provision of Delmarva Power & Light Company's ("Delmarva Power") Standard Offer Service and provided information and analysis regarding alternative long-term electricity procurement options for Delmarva Power to meet its Standard Offer Service residential and small commercial retail load.

- ***Design of procurement process for transmission line:*** LEI was selected by a transmission developer to conduct the solicitation process for a proposed merchant transmission project connecting two large US Regional Transmission Organizations (markets). LEI's scope of work included designing the solicitation process, meeting with FERC staff in advance of the project's application for negotiated rate authority, preparing all solicitation documents, coordinating the marketing campaign with an outside firm, conducting information sessions, matching suppliers/buyers/marketers, allocating transmission capacity, and submitting a report to FERC demonstrating the results of the process as part of the developers' Section 205 filing. It is worth noting that as part of the procurement plan, LEI designed a novel process to not only solicit transmission customers, but match suppliers, buyers, and marketers to help reduce the market risk of shippers signing up for long-term transmission agreements. LEI also led the development of the electronic platform (portal) dedicated to the procurement process.

- ***Design of procurement process for CT DPUC to reduce costs of congestion for CT ratepayers:*** LEI was engaged by the DPUC to assist it in the evaluation of measures to reduce Federally Mandated Congestion Charges ("FMCC") in the State of Connecticut.

As part of this effort, LEI performed an economic evaluation of the New England and Connecticut energy markets using its proprietary production cost model, POOLMod. In addition, LEI separately modeled the proposed locational capacity market and the locational forward reserves market. LEI designed and drafted the RFP process, RFP documentation, and contract template in order to best meet the needs of the DPUC and Connecticut ratepayers, using an innovative approach that incorporated a hybrid physical and financial contract.

- ***Open solicitation for a transmission line across the west and east interconnections:*** LEI was retained by a transmission developer to serve as Independent Examiner for a proposed merchant transmission project open season process. The project entailed overseeing the entire process, including drafting announcements and press releases, preparing the Open Season documents and forms, conducting information sessions, creating the associated website, evaluating and ranking bids, and submitting a report to FERC as part of the developers' Section 205 filing.

- ***Anchoring solicitation for a proposed merchant line in NY:*** LEI was retained by a transmission developer to serve as Independent Examiner for a proposed merchant transmission project open solicitation process. The project entailed designing the solicitation process, meeting with potential shippers on the line to garner early interest, drafting announcements and press releases, conducting information sessions, updating the solicitation website, evaluating and ranking bids, assisting both bilateral negotiations with shippers, and submitting a report to FERC as part of the developers' Section 205 filing.

- ***Design of a large-scale renewable energy procurement program***: LEI was engaged by a large Middle Eastern country's government to recommend and develop: a procurement framework to facilitate cost-effective and low-risk deployment at scale of renewables (via competitive annual procurements), a feed-in tariff program, and a sustainable energy procurement company. LEI led a multi-faceted team on-the-ground consisting of industry experts, economics, financial analysts, engineers, and legal advisors. The project included extensive coverage of solar and wind. In addition to designing the procurement process, LEI was tasked to design and create all solicitation materials (including PPA contracts), and to lead the creation of an electronic procurement platform (or portal).

- ***Support for Ontario Power Authority in improving procurement processes:*** LEI acted as an outside consultant to the Ontario Power Authority during a stakeholder process designed to improve future competitive procurement processes held by the organization charged with ensuring adequate generating capacity in Ontario. LEI advised the OPA on the development of questionnaires sent to stakeholders, participated as an observer in a series of public and private consultations with stakeholders, including developers, major power users, system operators and local distribution companies. LEI also prepared a final report that synthesized the comments made by the various stakeholders into a coherent format and made recommendations to the OPA about ways to improve future procurement processes.

## 5.2 Engagements within the power systems within MISO

LEI closely monitors the MISO market for ongoing client work. LEI also produces a semi-annual regional market update and wholesale price forecast for eleven North American power markets, including MISO. LEI's deep understanding of the MISO market serves as a solid foundation in this engagement. The following are a list of projects that the team has conducted in recent years that demonstrate our regional expertise in MISO.

- ***Management audit of a major utility in MISO:*** LEI was engaged by the Mississippi Public Service Commission ("MPSC") to perform a two-year audit of the management activities of a major vertically integrated utility. As part of the management audit, LEI prepared a fuel inventory audit, where LEI assessed the utility's practices for economic purchase and use of fuel and electric energy, evaluated fuel and energy contract terms, investigated the operations of the utility's coal and nuclear generation units, and reviewed the prudency of coal inventory levels and inventory control procedures. Following the two-year audit, the MPSC engaged LEI for another two years to audit the other major vertically integrated utility in the state.

- ***Due diligence for a potential asset acquisition in MISO:*** LEI was engaged to assist in due diligence of a potential asset acquisition in MISO, involving gas-fired generation assets. LEI reviewed the contracts and performed financial analysis, with a specific focus on the assumed market value of capacity in the long term, and locational marginal prices for energy. Work involved reviewing documents in a virtual data room, and analysis related to drivers of gross margin for the asset: macroeconomics, weather fluctuations, fuel and electricity cost projections, and an overview of gas and electricity market in the region.

- ***Renewables implementation:*** LEI was retained by Kentucky's power utility regulator to review regulatory policies and tariff structures with a view to determining how they can be altered to elicit demand reductions and renewables implementation. The engagement included stakeholder interviews to solicit feedback from all relevant stakeholder groups on the necessary updates to the planning and approval process. The review process consisted of analyzing the current processes for renewable and distributed generation and demand-side management programs and propose recommendations to improve the efficacy of these programs.

- ***Revenue opportunity for gas-fired cogeneration units in MISO:*** LEI was engaged to inform the client of potential risks associated with the units upon the termination of power purchase agreements. Under this engagement, LEI simulated MISO's energy and capacity markets and derived forecast of wholesale energy prices and capacity prices relevant to the units' geographic location.

- ***Economic analysis for a proposed transmission project in MISO:*** LEI conducted a modeling exercise to determine the potential revenues for a proposed transmission project wheeling power from western MISO to eastern MISO (and eventually PJM). LEI evaluated both the revenue opportunities to the investors as well as social benefits to the MISO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system and evaluated the incremental value of the business strategy of selling the energy (and capacity) out of East MISO to third parties in PJM.

- ***Costs/benefit analysis of Entergy joining an RTO:*** LEI was hired by the Public Utility Commission of Texas ("PUCT") to provide a cost-benefit analysis of the decision by Entergy to join MISO. LEI provided quantitative and qualitative analyses of specific costs/benefits attributable to Entergy Texas, Inc. ("ETI") and its customers following membership in MISO or SPP.

- ***Review of ETI's impact analysis of termination of PPA on consumers:*** LEI was hired by the PUCT to conduct a due diligence review of the analyses performed by ETI on the impact of the termination of specific PPAs while a member of MISO. LEI's scope of work included a review of ETI's inputs, results, methodology, and interpretation of MISO market rules.

- ***Estimating coal plants' energy and capacity revenues in MISO:*** For a large foreign utility, LEI performed the valuation of two power plants located in the Midwest region of the US to determine their potential value upon expiration of an ongoing PPA. The plants revenues were calculated based on the 25-year forecasts of electricity prices in their respective zones. Given the long-term horizon of the modeling exercise, LEI also simulated an organized capacity market based on the Resource Adequacy requirements of MISO to estimate potential capacity revenues for the plants.

### 5.3 Experience with BESS projects

LEI demonstrates a diverse range of capabilities in the renewable energy sector, especially small BESS projects, through various projects. LEI's capabilities span due diligence, valuation, and evaluation of BESS projects.

- ***Economic analysis of BESS***: For a renewable storage company, LEI conducted an independent economic analysis around the potential market revenues and operating costs for a proposed 9.96 MW (20.4 MWh) battery energy storage system ("BESS") located in Texas. The BESS would be participating in the Electric Reliability Council of Texas ("ERCOT") wholesale power market and would be expected to reach commercial operations in 2023. For this engagement, LEI conducted a review of the sellers' model and valuation of the BESS project and reviewed the independent projection of future revenues and charging costs for the BESS for up to 20 years, based on an optimized forecast of market participation in the real-time energy market and day-ahead operating reserve markets administered by ERCOT.

- ***Market-based evaluation of a standalone solar project:*** LEI was retained as an independent advisor to carry out a market-based evaluation of two distinct projects: a standalone 10 MW (20.4 MWh) BESS to be located in Houston, Texas, and a large hybrid system combining a 120 MW (240 MWh) co-located with a 120 MW solar plant, to be located in southern Texas zone. For each of the proposed projects, LEI's scope of work consisted of i) reviewing in detail the sellers' model and internal valuation, and ii)

developing an independent projection of net revenues for the prospective project in ERCOT (including future revenues and charging costs for the BESS) for a 20-year horizon. To perform it simulation exercise for each project, LEI used its proprietary economics-constrained energy storage optimizer (STORM) to simulate revenue streams based on i) project's parameters and operational profile, and ii) simulated market dynamics in the real-time energy market and day-ahead operating reserve over the 20-year horizon.

- ***Assessment of technical adequacy and sustainability of a BESS project (Alberta):*** LEI was engaged by a financial development bank to assess the technical adequacy and suitability of a battery energy storage project (in development) to be co-located with a hydroelectric facility and provide technical support in the drafting of financing documents required to reach financial close. As part of this process, LEI performed (i) an operating performance review of an existing asset; (ii) forecasts for energy prices, ancillary service prices, and energy storage modeling over a 25-year timeframe, as well as the development of a revenue profile for the target portfolio; and (iii) provided a detailed market report of the Alberta market.

- ***Due diligence support on a BESS project (Alberta):*** LEI was engaged by an infrastructure development lender to provide due diligence support on a BESS project being developed in the province of Alberta. LEI was tasked to review the BESS business model and assess the technical adequacy and suitability of the proposed project under existing and future market conditions in Alberta. In addition, as part of this process, LEI developed independent forecasts of energy prices and ancillary service prices in order to project expected revenues for the asset operating over a 25-year period in Alberta's power market, operating reserve and Fast Frequency Response markets.

- ***Valuation of a BESS project (MA):*** LEI was retained by a renewable energy developer to prepare a report related to the values of a BESS from the perspective of an off-taker, including a high level discussion on the quantitative methodology to evaluate the value of each item in the value stack. LEI identified additional values that BESS can provide to electric utilities that are not typically recognized by merchant generation owners, including BESS's value in delaying wires investment needs, reduction in transmission charges, providing local voltage support, reducing cycling cost of thermal plants, and enhancing rate of return under incentive-based regulation regimes.

- ***Due diligence on a BESS project in PJM:*** LEI was hired to provide due diligence assistance on the development of a BESS in PJM. As part of this Project, LEI carried out a detailed review of market rules framing the operation of BESS across the energy, capacity, and ancillary services. LEI's findings were used to inform the early stage of the BESS development.

- ***Revenue forecast of a BESS project in Massachusetts:*** LEI was engaged by an energy infrastructure company to project over a 20-year horizon the revenues of a 7 MW/ 28 MWh BESS being developed in Massachusetts. LEI's analysis first consisted of i) developing independent forecasts of energy prices and ancillary service prices, and

projecting the value of capacity in ISO-NE under the current regulatory framework. Next ii) LEI deployed its optimization model STORM to simulate dynamically the performance of the BESS across the energy and ancillary services market, with assumptions made on participation in the Clean Peak market. LEI derived the revenue profile of the BESS based on this exercise.

### 5.4 Regulatory support and expert testimony

LEI has extensive experience providing advisory services to utility regulatory commissions and supporting regulatory proceedings in the US as well as serving as an expert witness. The work below is a small sample.

- ***Expert review of procurement process:*** LEI was retained by Delaware Public Services Commission ("PSC") to assist with review of the procurement process for the provision of Delmarva Power & Light Company ("Delmarva Power")'s standard offer services, and to provide information and analysis regarding alternative long-term electricity procurement options for Delmarva Power to meet its Standard Offer Service residential and small commercial retail load. [Docket 14-0283]. https://delafile.delaware.gov/AdvancedSearch/AdvancedSearchDocket.aspx

- ***Testimony in support of transmission operating rules and curtailment protocols for interties into Alberta.*** Rules were promoted by Alberta Electricity System Operator ("AESO") in order to support a fair, efficient and openly competitive power market. The LEI testimony was made in front of the Alberta Utilities Commission ("AUC"), on behalf of Morgan Stanley Capital Group ("MSCG"), a customer of the Montana-Alberta Transmission Line. LEI's analysis considered commercial as well as operating protocols in deregulated power markets and considers how market rules incentivize new entry and produce dynamic efficiency gains related to more intense competition The AUC issued a favorable decision to MSCG in early 2013. AUC Docket Number 1607958. URL: http://www.auc.ab.ca/regulatory_documents/Pages/default.aspx

- ***Detailed cost-benefit analysis and macroeconomic impact analysis in support of the Champlain Hudson Power Express ("CHPE") application for siting approval at the New York Department of Public Service ("DPS"):*** LEI's analysis on economic effects was the cornerstone of the settlement agreement reached between TDI and a number of New York agencies. LEI acted as independent expert on behalf of TDI and prepared a study of energy market impacts, capacity market impacts and also macroeconomic benefits stemming from the operation of the CHPE project. LEI's testimony was used in the DPS proceeding in the summer of 2012 and CHPE was successfully granted its Article VII permit. NY PSC Case 10-T-0149. http://www3.dps.ny.gov/W/PSCWeb.nsf/All/FCFC9542CC5BE76085257FE300543D5E?OpenDocument

- ***Independent testifying expert related to Maine Energy Cost Reduction Act:*** LEI was engaged by the State of Maine Public Utilities Commission to assist in evaluating options for expansion of natural gas supply into Maine. LEI authored pre-filing reports;

responded to discovery from other parties; prepared discovery questions and cross-examined witnesses; reviewed testimony by other parties and provided assessments of the issues presented; and served as an expert witness in the proceedings. [MPUC Docket No. 2014-071] URL: https://mpuc-cms.maine.gov/CQM.Public.WebUI/Common/CaseMaster.aspx?CaseNumber=2014-00071

- ***Expert testimony before FERC related to Shell Energy's sale of capacity commitments:*** The LEI team provided expert testimony before FERC related to Shell Energy's sale of capacity commitments from facilities in New York to New England in a market manipulation case. LEI team examined market rules, operating procedures, and pricing arrangements in New England and New York at the time of the investigation, and examined the participation of Shell in the capacity markets and compliance offers in the energy markets, commenting on the economic rationale behind the client's must-offer strategies in the energy market for capacity compliance. [EL09-48-000]

- ***Standard Market Design in ERCOT:*** LEI examined issues related to the FERC's Standard Market Design and its implications for ERCOT and TXU. LEI assisted in the preparation of comments for submission to FERC. In the course of producing these comments, LEI evaluated specific proposals and benchmarked them against best practices worldwide. (2002)

- ***ISO-NE tariff design:*** LEI submitted testimony on behalf of ISO New England to the FERC to help defend ISO New England's self-funding tariff. LEI first defined the basic underlying economic principles for specifying the tariff, and then undertook to show how the tariff should be applied to various system users. The engagement involved an intensive financial modeling effort and frequent interaction with stakeholders. (2000) [ER01-316-000]

- ***Triennial market power analysis (southeast region):*** in support of a client's application to renew market-based rate authorization under the provision of FERC, LEI performed Pivotal Suppliers Analysis and Market Share Analysis for the Entergy balancing authority area. (2011) [ER97-4281 et al.]

- ***Merger-related market power analysis:*** LEI evaluated the PJM market and considered the competitive effects of the proposed merger of FirstEnergy and Allegheny, in light of current and evolving market conditions for PJM West area. LEI's analysis contributed to the negotiated, confidential settlement between certain parties. (2010) [EC10-68-000]

- ***Updated market power analysis:*** prepared for a US utility's triennial review of market-based rate authorizations for certain subsidiaries in the northeast region, LEI analyzed the company's market power in PJM and ISO-NE. (2010) [ER98-4159 et al.]

- ***Section 203 and 205 analysis in support of NRG's acquisition of certain Dynegy assets in CAISO and ISO-NE:*** LEI was engaged to provide testimony in support of a proposed acquisition. LEI performed a Delivered Price Test ("DPT") for CAISO and ISO-NE energy

markets as well as a standalone Herfindahl-Hirschman Index ("HHI") analysis for the capacity markets. In addition, LEI discussed the impact of the acquisition of the ancillary services markets. (2010) [EC10-88-000]

- ***Section 203 and 205 analysis in support of an asset acquisition in the Entergy control area:*** LEI was engaged to provide testimony in support of a proposed acquisition in Entergy's control area. LEI conducted a change in HHI analysis as well as an analysis of the acquirer's net load position for a Section 203 filing. LEI also conducted the Section 205 analysis and showed that with the acquisition, the client still passes the pivotal supplier and market share screens. (2010) [EC10-86-000]

- ***Critique of market power allegations in California***: LEI served as advisor to a Canadian-based electricity supplier related to allegations of market power abuse during the California crisis period; LEI examined and critiqued the underlying analysis for the related cases at FERC on remand from the US Court of Appeals, as well as a complaint filed by the California parties. (2010) [EL01-10-000 et al.]

- ***Preparation of analysis for generation market power under FERC's indicative screens for market-based rate authorization:*** in support of the acquisition of a 21 MW photovoltaic solar facility, LEI performed an updated market power analysis for acquirer's affiliates in the California ISO which has been grated market-based rate authorization, and prepared the related Section 203 filing. (2010) [ER10-204-000]

# 6 Cost proposal

LEI expects to have a kick-off meeting a few weeks after the signing of the contract. LEI will also take advantage of this time to gather data and information needed to conduct subsequent tasks outlined in Section 3. LEI expects the two stages of the project to take between 18 and 20 months, depending on ELL's timeline for the RFP process and certification proceedings. LEI anticipates that a tentative schedule and the deadlines will be finalized during the kick-off meeting. LEI proposes a total fixed fee budget of **$133,876 for the kick-off call and tasks 1.1 through 2.2.** *Due to the uncertainty of the duration and extent of the formal proceedings and expert testimony, LEI developed an indicative budget based on 75 hours for the team for task* **2.3 (support for formal proceedings and expert testimony)** ***of 29,060****. We assume this task will be billed on a time & material basis*. Any required work beyond the proposed budget for 2.3 will require the express agreement in writing from the client. (see Figure 5). We also budgeted $1,578 for expenses associated with meetings with LSPC.

**Figure 5. Indicative budget and breakdown of time budget by assigned staff**

INDICATIVE STAFFING & BUDGET

| | Sayad | Hannah | Barbara | Sandy | Jun-Soo | Total person-hours | Total fee ($) |
|---|---|---|---|---|---|---|---|
| **Kick-off call** | **1** | **1** | **1** | **1** | **1** | **5** | **$ 1,716** |
| **Stage 1** | **40** | **70** | **50** | **60** | **60** | **280** | **$ 93,440** |
| 1.1 Initial review, regulatory context assessment, and strategic support | 10 | 15 | 10 | 10 | 10 | 55 | $ 18,960 |
| 1.2 Participation in Pre-RFP process and technical conferences | 10 | 10 | 10 | 10 | 10 | 50 | $ 17,160 |
| 1.3 Ongoing RFP monitoring, bid review support, and fairness assessment | 10 | 20 | 15 | 20 | 20 | 85 | $ 27,760 |
| 1.4 Preparation of RFP Process Report | 10 | 25 | 15 | 20 | 20 | 90 | $ 29,560 |
| **Stage 2** | **55** | **45** | **20** | **45** | **25** | **190** | **$ 67,780** |
| 2.1 Review of certification application(s) | 15 | 15 | 10 | 15 | 15 | 70 | $ 23,940 |
| 2.2 Data request development and analysis | 5 | 10 | 10 | 10 | 10 | 45 | $ 14,780 |
| 2.3 Support for formal proceedings and expert testimony | 35 | 20 | 0 | 20 | 0 | 75 | $ 29,060 |
| *Total* | **96** | **116** | **71** | **106** | **86** | **475** | **$ 162,936** |

Indicative

The proposed budget is based on LEI's discounted professional fee rates (see Figure 6).

**Figure 6. LEI's professional fee rate**

| Assigned Staff | Position | Hourly Rate | Daily Rate |
|---|---|---|---|
| ***Sayad Moudachirou*** | Director | $476 | $3,808 |
| ***Hannah Braun*** | Senior Consultant | $360 | $2,880 |
| ***Barbara Porto*** | Senior Consultant | $360 | $2,880 |
| ***Sandy Chen*** | Consultant | $260 | $2,080 |
| ***Jun-Soo Park*** | Consultant | $260 | $2,080 |

### Expense budget

LEI estimates that the additional cost for reasonable and customary reimbursable expenses, such as (but not limited to) printing, courier, and data acquisition fees, if any, will not exceed ($600). In addition, travel costs are estimated in Figure 7 below. LEI will comply with all expense caps as outlined in the State of Louisiana Division of Administration Travel Policies and Procedures Memorandum. Accordingly, total professional fees including the expense budget will be approximately **$164,500 (**rounded from $164,514).

**Figure 7. Travel costs**

| Travel | # trips | # people | # nights | Total cost |
|---|---|---|---|---|
| Meetings with LPSC | 1 | 2 | 1 | $1,052 |
| Stakeholder or bidder meetings | 1 | 1 | 1 | $526 |
| **Total estimated costs** | | | | **$1,578** |

Indicative

# 7 Conflict of Interest

LEI currently has no interest, direct or indirect, which would conflict with the performance of services under this contract and shall not employ, in the performance of this contract, any person having a conflict.

# 8 Appendix 1: Resumes

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## Sayad Moudachirou

*Director, London Economics International LLC*

**KEY QUALIFICATIONS**:

Sayad is a senior advisor in the energy and infrastructure industry at London Economics International, with almost 20 years of experience working on matters related to energy policy, market transformation, planning and sustainable operations, strategic investment and project economics in North America and around the globe. Mr. Moudachirou leverages his expertise in energy regulatory economics to educate market participants on market fundamentals and provide technical assistance and thoughtful insights into their operations, strategy, and decision-making process. His expertise in the power sector includes regulatory framework gap analysis, policy design and impact analysis, due diligence on commercial transactions, strategic planning, renewable asset management, as well as value stacking and assets valuation. Sayad has extensive experience establishing regulatory frameworks for the deployment and operation of both conventional and renewable technologies.

Throughout his career, Mr. Moudachirou served regulators, utilities, market investors and project developers on a range of issues including jurisdictional research and evaluation, power contracts negotiation, infrastructure planning, wholesale power market simulation and cost-benefit analyses. As part of his involvement in issues related to energy transition, technology adoption, and power market performance, Sayad has worked extensively with technologies increasingly relied upon to capture new market opportunities and address ever-evolving system needs. This includes among others, distributed energy resources ("DERs") and Battery Energy Storage Systems for which Sayad studied performance and contribution to system reliability (market level), deployment economics, and projects' revenue capture. Furthermore, his specific experience with renewables, has included regulatory compliance and optimization of physical assets, contracting and management of power plant re-commissioning.

Sayad also brings to the table a wealth of international experience. In Sub-Saharan Africa, he was involved in the development of a long-term strategic plan for a geothermal company in Kenya; the review of regulatory frameworks and development of strategies encouraging private sector participation in the power infrastructure sector (Cameroon, Ghana, Namibia and Kenya); as well as the impact analysis of construction of infrastructure (transmission and generation power assets) on local economies (Cameroon and Ghana). In Central and South America, Sayad has provided technical support to developers and prospective investors on their market strategy and project development. This includes projects in Colombia, Chile, Mexico, Panama and Peru.

Driven by his passion for art in general and performing arts in particular, Sayad volunteers on the Board of Portland Ovations, a 90-year-old non-profit organization with the mission to propel the artistic, social, educational and economic wellbeing of Southern Maine communities through the power of the performing arts.

## EDUCATION:

**Brandeis University**, International Business School, Waltham, Massachusetts, USA, Master of Arts in International Economics and Finance, 2007.

**University of Paris Dauphine**, Paris, France, Master's in Finance and Banking, 2006.

**University of Paris I –** La Sorbonne, Paris, France, Bachelor of Arts, Economics, 2003.

## EMPLOYMENT RECORD:

| | |
|---|---|
| **From:** 2017 | **To:** present |
| **From:** 2007 | **To:** 2016 |
| **Employer:** | *London Economics International LLC, Boston, MA*<br>Managing Consultant, (January 2015 to July 2016), Senior Consultant (March 2012 to December 2014), Consultant (June 2008 to March 2012), Research Associate (September 2007 to June 2008) |
| **From:** 2017 | **To:** present |
| **Employer:** | *Ampersand Hydro LLC, New York and New England*<br>Asset Management & Regulatory Affairs |
| **From:** 2016 | **To:** 2017 |
| **Employer:** | *Wheelabrator Technologies, Portsmouth, NH*<br>Finance Manager (Corporate and UK based assets) |
| **From:** 2007 | **To:** 2007 |
| **Employer:** | *Dresdner Kleinwort Investment Bank, New York City, NY*<br>Intern Market Analyst |
| **From:** 2005 | **To:** 2005 |
| **Employer:** | *NATEXIS Arbitrage, Paris, France*<br>Intern Analyst-Risk Controller |

## PROJECT EXPERIENCE:

The projects briefly described below are typical of the work Sayad has performed throughout his career at London Economics International. Projects have been selected based on their relevance to the present engagement.

### Zero emissions fuels, BESS, and Distributed energy resources

- ***BESS project development in ERCOT (Texas):*** LEI was hired to provide market assessment and technical assistance on the design and optimization of a Battery Energy Storage System (BESS) planned to be co-located with a solar plant in ERCOT. As the project manager, Sayad led the LEI team that used a modeling suite combining a production cost model POOLMod with an Energy Storage Optimizer to simulate an optimization of the revenues capture across several market products, over a 20 year horizon. In addition, LEI worked with Waldron, a partner engineering firm to produce cost estimates for the BESS facility based on the target commercial operation date, the project size and configuration from the BESS conceptual design. Finally, LEI provided qualitative views on permitting and regulatory impactions for the BESS and potential future requirements of firming for solar in the ERCOT market.

- ***Due diligence review of BESS operational and financial performance in Alberta (Canada):*** LEI was engaged by a lender to assess the technical adequacy, operational performance, and suitability of a battery energy storage project (in development) and provide technical support in the drafting of financing documents required to reach financial close. As the project manager, Sayad led the LEI team that performed (i) an operating performance review of an existing asset; (ii) forecasts for energy prices, ancillary service prices, and energy storage modeling over a 25-year timeframe, as well as the development of a revenue profile for the target portfolio; and (iii) provided a detailed market report of the Alberta market.

- ***UN ESCAP: Evaluating the role of low emission fuels and hydrogen in energy transition for Pacific Island nations:*** LEI led a consortium retained by the United Nations Economic and Social Commission for Asia and the Pacific ("UNESCAP") to develop a toolkit aiming at increasing the capacity of Pacific Island Countries and Territories (PICT) policy makers to use energy connectivity principles (collaboration, coordination, and harmonisation) to support sub-regional and national efforts to meet the UN Sustainable Development Goals (SDGs), in particular SDG 7, (ensure access to affordable, reliable, sustainable and modern energy for all), and to develop more integrated energy markets in the Pacific Sub-Region. LEI designed a Toolkit to i) provide a solid understanding of the economics of Power-to-X products (including hydrogen) in the context of decarbonization, ii) educate policymakers on best practices for designing hydrogen-based strategies (and associated roadmap) drawings from international case studies, and iii) discuss potential avenues to facilitate the involvement of PICTS members in a regional hydrogen market.

- ***Assessed the market for solar thermal technologies as part of the European Union Horizon's 2020 research and innovation program:*** LEI was retained as part of a consortium under the European Union Horizon's 2020 research and innovation program to provide technical assistance on assessing the market for solar thermal technologies. LEI's conducted an economic assessment of solar thermal technology, by evaluating the value contribution of the different components of the value chain leading to a molten thermal solar plant, as well as by providing support to developing business strategies for this market. LEI's analyzed 3 high priority markets - Saudi Arabia, Morocco, and Chile, conducting interviews with key market

participants in each country, assessing the economics for solar thermal there, and rules governing market access. Sayad led the case study on Morocco and represented the team at the consortium meeting in Zurich.

- ***conducted a non-transmission alternative ("NTA") study for East Cambridge:*** Eversource hired LEI to perform an analysis on the ability Distributed Energy Resources ("DERs") (including BESS) to address potential reliability issues identified in the East Cambridge area. Under its planning strategy, Eversource is required to evaluate the feasibility and fit of alternate solutions to the substation construction, hence the need for LEI's study. LEI's determination of maximum DERs was done under two scenarios: a low-end scenario, in which the maximum amount of DERs was determined while taking under consideration all physical, operational and financial identified constraints, and a high-end scenario in which the amount of DERs was primarily determined by the maximum amount of distributed generation that can be interconnected at East Cambridge and Putnam substations.

- ***assisted in development of a strategy to enter the US market:*** LEI teamed up with Ylios Consulting (a European consultancy) to assist a large European energy company crafting its strategy to enter the US market and become a key participant in the integration of distributed energy resources ("DERs"), and in the energy management space. The purpose of the work was to develop a strategy and create the adequate positioning to accommodate the company's goals. The team developed a set of case studies on "mature" markets (maturity defined by the level of decentralization, deployment of DERs and associated projects). Markets considered included Australia and the US. LEI was asked to conduct series of case studies on existing programs (and pilot projects) across the US to identify potential opportunities originating from energy management in these decentralized markets.

**Regulatory and policy analysis**

- ***Energy Resilience Plan for Southern Maine (2025-2026):*** LEI was hired by the Southern Maine Planning and Development Commission (SMPDC) to provide support for the development of a regional Energy Resilience Plan aimed at enhancing energy security, infrastructure resilience, and mitigating risks for southern Maine (both coastal and inland communities). Our role in this project was to assess the status of resilience in the region by reviewing historical service interruption data across the region, utilities' practices, and evaluating factors contributing to system vulnerability (including location of energy infrastructure, population density, size of infrastructure, and other dynamics). The purpose of the exercise was to perform a risk assessment for the short and the long-term (in the face of new challenges), identify strategies, and programs that SMPDC could help design to enhance the resiliency of the communities. The project included an extensive engagement with stakeholders (in technical sessions) and communities (municipalities, businesses, low-income groups, and others) to get critical feedback in establishing a list of local and regional priorities, developing solutions and strategies that are reflective of local market conditions and address communities' needs. The Energy Resilience Plan, was designed to document these assessments, highlight key challenges and expectations from the communities, discuss potential mitigation strategies,

and propose actionable initiatives that the community could rely on to enhance preparedness and resilience in a holistic and coordinated fashion.

- ***Workshop on ERCOT energy markets (Texas)***
  LEI was hired to develop a technical workshop on the operations and performance of ERCOT's energy market. The purpose of the workshop was to educate and provide support to a prospective investor in its market screening process. A sample of topics of discussion included the dynamics of ERCOT's market fundamentals, pricing mechanisms and price formation in ERCOT. The workshop also covered in detail the expected impact of proposed regulatory and legislature changes on the evolution of pricing in ERCOT.

- ***Study of retail market evolution in Texas and New York***
  LEI was retained to carry out a review of the evolution and the competitive nature of the electric retail markets in New York and Texas. The goal of the exercise was to draw lessons learned from the case studies, identify innovative regulatory features and market practices, and explore its relevance for potential adoption in the UK market.

- ***developed a strategy and implementation plan to support Uganda with its transition toward more renewables:*** LEI was hired by the US energy Association to assist the Uganda Electricity Generation Company in developing a strategy and implementation plan that will support UEGCL's goals to achieve energy mix diversification, while relying on the exploitation of native non-hydro renewable resources (wind, solar (with storage) and geothermal) consistent with the country's overall economic development plan. Under this mandate, LEI was also required by USEA and USAID to explore the gaps in policy, regulatory shortcomings, and institutional design inefficiencies that may inhibit energy diversification; identify challenges of integrating renewables into the grid system of Uganda. Findings from the analysis were presented to the UEGCL top management and discussed in a workshop involving other key stakeholder such as the ministry of energy, the regulatory authority (ERA), the transmission utility (UETCL).

- ***performed a short-term technical assistance to the Haitian Energy Agency ("ANARSE"):*** LEI was hired by the US Energy Association to perform a short-term technical assistance to the ANARSE. The overarching goal of the project was to empower the newly created regulatory authority (along with other stakeholders) with theoretical knowledge (backed by practical case studies), and best practices, to support its efforts toward market liberalization and successfully achieve the goals set in its mandate. The work consisted of developing training materials and leading a 3-week workshops on three key topics including i) licensing, ii) tariff design and ratemaking methodology, and iii) institutional design and staffing best practices. The workshops were supplemented by a series of gap analyses on the existing market structure and regulatory framework. All workshop sessions were delivered in French while the supporting materials were delivered in both French and English.

- ***analyzed policy options for Alberta carbon reduction targets:*** For a large market participant in Alberta, analyzed all possible policies to reduce carbon and other greenhouse gas emissions. Conducted case studies of California's efforts to increase solar distributed

generation and energy efficiency, Feed In Tariffs in Germany, California's cap and trade program, UK carbon levy, and Renewable Portfolio Standards in Texas, Montana, and Massachusetts. Recommendations were calibrated by extensive economic modeling of the Alberta electricity sector. The modeling exercise consisted of evaluating the impact of changes to Alberta's climate change and carbon emission regulations on the portfolio of the power sector as a whole, and electricity consumers. The analysis entailed modeling various scenarios relating to different specific regulations and assumptions to determine the financial impact on selected plants as well as the prevailing impact on prices.

- ***assisted Energy Regulatory Authority ("ERA") of Uganda in developing a streamline process to review eligible technology types and training ERA staff on-site:*** LEI was hired by the kfW as part of a consortium with the Frankfort School of Finance to assist ERA in developing a streamline process to review eligible technology types under RE-FIT program as well as training ERA staff on-site in best practice financial models, methodology and tools for this process. LEI's scope of worked included designing and standardizing generic financial models to evaluate bids for large hydropower plants. Sayad and the LEI team organized and animated a four-day workshop training on financial modeling best practices and IPP's financial models review. The workshop training was attended by ERA staff and representatives of the ministry of energy and the utilities.

- ***provided due diligence assistance in designing and developing a framework to promote and develop renewable energy in Saudi Arabia:*** LEI was hired by a Special Purpose Vehicle steering committee to provide due diligence assistance in designing and developing a framework to promote and develop renewable energy in Saudi Arabia. LEI's mandate was extensive and consisted of defining eligible renewable technologies, determining and implementing the adequate development strategy based on international best practices and lessons learned, providing guidance to the Steering Committee via series of workshops and stakeholders leadership meeting. The first portion of the work consisted of delivering series of case studies for selected jurisdictions. Sayad was responsible for researching and reporting on feed-in-tariffs and competitive procurement strategy in South Africa and a Special Energy Procurement Strategy in Morocco. The second delivery of Sayad consisted of evaluating the potential for the development of a waste-to-energy industry in Saudi Arabia and determined its eligibility under Saudi Arabia's renewable program.

- ***provided evaluation services pertaining to the announced decision by Entergy:*** LEI was hired by the Public Utilities Commission of Texas to provide evaluation services pertaining to the announced decision by Entergy to join the Midwest Independent Transmission System Operator ("MISO") Regional Transmission Organization ("RTO"). LEI evaluated several existing cost/benefit studies related to Entergy's decision to join MISO over the Southwest Power Pool ("SPP") and provided quantitative and qualitative analysis of specific costs/benefits attributable to ETI and its customers following membership in either MISO or SPP, including but not limited to net trade benefits, transmission cost allocation, governance issues, and continued participation in the Entergy Service Agreement following RTO membership.

- ***acted as an independent monitor providing guidance for Entergy New Orleans:*** Sayad was part of the LEI team acting as an independent monitor providing guidance to the City Council of New Orleans and Entergy New Orleans in their solicitation, review and selection process of a Third Party Administrator to implement and deliver conservation and demand management programs on behalf of the utility. Sayad's responsibilities include reviewing Entergy's sample contract and RFP to ensure of its fairness and comparing against best practices.

- ***performed a feasibility study for the development of a 5 MW solar photovoltaic pilot project in Essaouira:*** As a member of a consortium, LEI was hired by the USTDA to perform a feasibility study for the development of a 5 MW solar photovoltaic pilot project in Essaouira (Morocco). The project is a key milestone in the development strategy of the Moroccan Agency for Renewable Energy ("ADEREE"). LEI assisted Power Engineers the consortium-leader, providing regulatory review of the Moroccan regulatory framework and performing an economical and financial analysis of the project. Other relevant task included the development of an RFP for build and design.

- ***assisted in establishing an effective regulatory pricing regime for electricity, water and sewerage industries within The Gambia***: LEI was retained by the Gambia Promotion of Investment & Free Zones Agency ("GIPFZA") to establish an effective regulatory pricing regime for electricity, water and sewerage industries within The Gambia. The key elements to be addressed in attaining this objective were: (i) development, and incorporation within a computer model, of traditional cost of service mechanics; (ii) establishment of an incentive structure; (iii) customer financing of system extension; and (iv) retail tariff design. Sayad was primarily involved in the tariff modeling and best practices analysis. In addition, he helped design a financing mechanism that aims at incenting local communities to invest in transmission and/or distribution lines extension. Sayad also developed a detailed template of rate case filings to be used by electricity and water utilities of the Republic of Gambia when filing to the Public Utilities Regulatory Agency.

- ***analyzed the process of electricity market deregulations in Texas, New York and Pennsylvania:*** For a European utility, Sayad studied the process of electricity market deregulation in Texas, New York and Pennsylvania. For each state, Sayad analyzed specifically how regulation features affected incumbents' corporate structure and the response of incumbents to comply with the law requirements.

- ***conduced a detailed analysis of the electricity market, institutional design and regulatory framework in France and Germany:*** For a Canadian company, Sayad conducted a detailed analysis of the electricity market, institutional design and regulatory framework in France and Germany. The purpose of the analysis was to identify investment opportunities in renewable sources such as wind and hydropower taking into account electricity market structure and regulation framework.

**Project development in emerging countries**

- ***provided due diligence and evaluated the Long Term Strategic Plan and 10 years Development Plan of the Geothermal Development Company ("GDC"):*** LEI was hired in a consortium to provide due diligence and evaluate the Long Term Strategic Plan and 10 years Development Plan of the GDC of Kenya. The GDC is a government-owned special purpose vehicle established to initiate, promote, develop and exploit Kenya's geothermal resources. The GDC targeted to develop 5 GW of geothermal capacity by 2030. Sayad's role in the project consisted of reviewing and updating GDC's financial plan, conducting a detailed review of the regulatory framework of Kenya and its neighboring countries to identify potential threat and opportunities for GDC's activities and plan. The review was conducted to benchmark Kenya's framework against best practices to attract private sector investments and facilitated implementation of IPPs. In addition, as part of a hard skillset transfer scheme, LEI was required to hold a week-long training workshop on institutional design best practices and financial modeling in the context of planning.

- ***provided financial and technical advisory assistance to the Government of Cameroon regarding the development of a 75 MW hydroelectric power plant:*** Under a USTDA contract, Sayad is involved as a junior power market analyst in the LEI portion of the work for a consortium to provide financial and technical advisory assistance to the Ministry of Energy and Water Resources of the Government of Cameroon with respect to the development of a 75 MW hydroelectric power plant at Bini à Warak. Specific tasks include review of Cameroon's existing regulatory system, regional market demand analysis and assessment of developmental impact of the project. The purpose of this task was to provide recommendations on improvements needed to attract IPPs in Cameroon. Sayad was also required to evaluate and quantify the direct and indirect impact of the project on the local and national economy in terms of job creation and value added.

- ***conducted a feasibility study for the Ghana Grid Company in relation to the "Eastern Transmission Line":*** LEI was part of a consortium with Siemens, Delphos International, and Eurasia Environmental Associates, conducting a feasibility study for the Ghana Grid Company in relation to the "Eastern Transmission Line". The study will make recommendations on the economic and technical feasibility of expanding and strengthening Ghana's northern and eastern transmission network with several hundred miles of new or updated transmission lines, as well as other associated infrastructure. LEI's scope for the project included providing a cost-benefit economic analysis of the project, carrying out a regulatory review to determine shortcomings and potential barriers to project development and private capital investments in Ghana. Sayad was the main market analyst conducting the regulatory. The project findings were presented to GridCo top management in a workshop session held in Accra.

**Non transmission alternatives economic analysis**

- ***Non-Transmission Alternative ("NTA") testimony for Merrimack Valley Reliability Project ("MVRP") before the MA Energy Facilities Siting Board ("EFSB"):*** ESFB. DPU 15-44/45- London Economics International LLC ("LEI") was engaged by Eversource and National Grid (collectively referred to as the "Utilities") to conduct a NTA analysis for the MVRP project.

The MVRP project is one of the three components of the larger transmission solution known as the "AC Solution." These transmission projects were proposed by the Utilities in response to an identified reliability need in the Boston metropolitan area and surrounding suburbs. LEI conducted its analysis based on the information on injection amounts, injection locations, critical load level ("CLL") and load at each substation that was provided by the Utilities to estimate the least cost technically feasible NTA solution. LEI also worked with the Utilities to provide testimony about its analysis to the ***ESFB. DPU 15-44/45***

***Similar NTA analysis was carried independently for the other two proejct of the AC portfolio Solution:***

- ***Mystic - Woburn Project ("MWP")*** *before the MA Energy Facilities Siting Board ("EFSB"):*EFSB 15-03/ D.P.U. 15-64/65
- ***Wakefield Woburn Reliability Project ("WWP")*** *before the MA Energy Facilities* EFSB 15-04/D.P.U. 15-140/141

- ***Non - Transmission Alternatives ("NTA") Analysis for the Acushnet to Fall River Transmission Project*** Eversource hired LEI to assess the technical feasibility, cost, and practicality of various utility-scale NTAs to rectify the thermal loads expected to occur in the High Hill area. An NTA solution was analyzed as an alternative to the potential Acushnet to Fall River Transmission Project. LEI carried out a detailed technical analysis to determine the NTA solution that would be capable of solving thermal overloads and other voltage issues under three load scenarios.

- ***Conducted non–transmission alternative study for presentation to the Connecticut Siting Council:*** LEI was hired to conduct a Non- Transmission Alternatives ("NTA") analysis for the two transmission projects, which are a component of larger transmission solution being proposed by Eversource and the Greater Hartford and Central Connecticut ("GHCC") area. The objective of the NTA analysis was to determine the feasibility and viability of other non-transmission resources- such as new generation and new demand-side resources- to be developed in lieu of these two specific transmission projects to relieve transmission reliability concerns. The NTA analysis [was] filed as part of Eversource's application with the Connecticut Siting Council ("CSC") for each of these transmission projects. [CSC Docket No. 474]

- ***NTA study to assess supply-side and demand-side resources:*** LEI was hired by Eversource to perform a non-transmission alternative study to the Frost Bridge – Naugatuck Valley & Housatonic Valley – Norwalk/Plumtree solution. LEI was asked to evaluate the potential and viability of replacing the solution with supply-side and demand-side resources. Eversource planners have identified two substations within the subarea of study that would be suitable to accommodate an NTA. Under this engagement, LEI reviewed the technical attributes and operational profiles of a range of technologies to evaluate their suitability for resolving overloads and thermal voltage identified by ISO-NE in the SWCT Needs. LEI's independent expert analysis was presented for siting approval at the Connecticut Siting Council ("CSC"). [CSC Docket No. 468]

- ***Connecticut Siting Council, application for permitting of the Greater Springfield Reliability Project:*** LEI simulated the New England wholesale electricity markets in order to compare the economic benefits between Greater Springfield Reliability Project ("GSRP") and responses to the Connecticut Energy Advisory Boards' ("CEAB") RFP for a non-transmission alternative ("NTA") to GSRP. The NTA consisted of modeling a new CCGT plant to be placed in Southwestern Connecticut. In order to ensure that economic benefits were not subject to the forced outage and availability schedule of the simulated energy markets, LEI simulated the energy market with 30 different random forced outage and availability schedules. In effect, these 30 different simulations added further robustness to LEI's results because it captured the flexibility of the New England energy market under several different normal operating conditions. Furthermore, the simulations created a distribution of results which was used to calculate confidence intervals and hypothesis tests, hence further increasing the robustness of our findings. The study results were used to produce written testimony to the CSC, oral testimony was provided in late August and early September 2009. (2008-2009) [CSC, Docket 370]

**Strategy advisory and planning**

- ***Strategic planning for a coop's market transition in the Midcontinent wholesale market (2024-2026):*** LEI was hired by a Midwest cooperative to provide technical assistance throughout the client's decision-making process to design, prepare, and execute its plan to become a full market participant in the Midcontinent ISO ("MISO"). The decision of becoming an MP would unlock new opportunities for the coop to take ownership of its market strategy with regards to full participation in energy markets, energy management and maximizing revenue opportunities in the short, the mid, and the long term. LEI was retained to assess the benefits and costs associated with the change under a host of scenarios, provide step-by-step guidance on an implementation plan, and provide some thoughts on the timing of key milestones. As part of this process, LEI also supported the coop throughout its settlement process with the existing intermediary in MISO; this consisted of reviewing the proposed settlement agreement, modeling final settlement terms and ensuring consistency with the original settlement agreement, and engaging with MISO and other parties relevant to the transition process.

- ***Idaho Power - IE for 2028 AS RFP (2024-2025):*** LEI was hired by Idaho Power Company to serve as an Independent Evaluator for its 2028 all-source energy (including storage) and capacity resources RFP ("2028 AS RFP"). The 2028 AS RFP was being issued to facilitate the sourcing of competitively priced resources capable of being commercially operational no later than June 1, 2028. The resources were needed to ensure IPC could address the needs identified in its latest Integrated Resource Plan (2023 IRP). The role of LEI as the IE was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly in congruence with the Oregon bidding rules. LEI was to ensure there was no bias in the procurement process, in particular a "self-build" bias that unjustly favors utility-owned resources. Moreover, LEI was tasked to develop a thorough evaluation process reflecting the procurement guidelines and apply it consistently to all resource bids received. Finally, LEI was requested to assist with OPUC with the monitoring of contract negotiations (all contracts associated with the winning bids). LEI's role consisted of documenting progress on key

contract terms, reporting on unexpected challenges and issues, and providing a detailed review of the process leading to contract agreement (or the termination of negotiations). Sayad was the Project Manager leading the LEI team on this assignment.

- ***Idaho Power Company 2026 All-source RFP (2023-2024)***: LEI was hired by Idaho Power Company to serve as an Independent Evaluator for its 2026 all-source energy (including storage) and capacity resources RFP ("2026 AS RFP"). The 2026 AS RFP was being issued to facilitate the sourcing of competitively priced resources capable of being commercially operational no later than June 1, 2026. The resources were needed to ensure IPC could address the needs identified in its latest Integrated Resource Plan (filed on December 30, 2021). The role of LEI as the IE was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly in congruence with the Oregon competitive bidding rules. LEI was to ensure there was no bias in the procurement process, in particular a "self-build" bias that unjustly favors utility-owned resources. Moreover, in addition to serving as an overseer of the procurement process, LEI was tasked to carry out a thorough independent review, evaluation and scoring of all submitted bids (consistent with Oregon's competitive procurement guidelines) and compare findings to IPC's. Finally, LEI was required by the commission to oversee and report on the contract negotiation process. Sayad was a senior advisor on the team supporting the review and evaluation of the bids.
- ***REC Tier 1 procurement process and contract negotiation in NY***: LEI was hired by a owner and operator of a hydropower plant located in upstate NY to assist with securing a REC tier 1 contract with the New York State Energy Research and Development Authority (NYSERDA). Each year, NYSERDA purchases in competitive solicitation processes, Tier 1 Renewable Energy Certificates associated with electricity generated from eligible facilities (including new development and recommissioning). LEI's task consisted of preparing and submitting a wining bid in the 2022 Tier 1 procurement process, providing support on the 20-year term contract negotiations with NYSERDA, while managing the re-commissioning process of the targeted asset. Sayad was the process manager for LEI.

- ***Successful federal grant applications:*** LEI was retained by the owner and operator of a portfolio of renewable resources, to file grant applications for the Hydroelectric Efficiency Improvement Incentives Program (Section 243) and the Maintaining and Enhancing Hydroelectricity Incentives program (Section 247) (both programs made available under the Bipartisan Infrastructure Law). LEI's work consisted of preparing the grant applications and contacts negotiations with the DOE. Sayad was the process manager for LEI.

**Industry analysis / market opportunities and new technologies**

- *E**conomic impact analysis for an outage resulting from the impairment of critical transmission infrastructure:*** LEI was hired by a New England utility to carry out an independent expert analysis regarding the potential economic losses (and other associated costs) to electricity consumers affected by a highly critical transmission system component forced out of service. LEI relied on the concept of Value of Lost Load ("VoLL") and understanding of the scope of impact to estimate the economic impact of the outage. The purpose of this analysis was to determine whether the investment in infrastructure (ballistic

physical barrier) proposed by the utility to limit the probability of occurrence (or the intensity) of a high-impact outage could be economically justified at the proposed cost.

- ***Direct Connect – SOO Green 2019-2020 Open solicitation:*** LEI was selected by a transmission developer to serve as Independent Examiner for a proposed merchant transmission project open solicitation process in the Midwest US connecting two large RTOs. LEI designed a novel process to not only solicit transmission customers, but match suppliers, buyers, and marketers so to help reduce the market risk of shippers signing up for long term transmission agreements. LEI's scope of work included designing the solicitation process, meeting with FERC staff in advance of the project's application for negotiated rate authority, preparing all solicitation documents, coordinating the marketing campaign with an outside firm, conducting information sessions, matching suppliers/buyers/marketers, allocating transmission capacity, and submitting a report to FERC demonstrating the results of the process as part of the developers' Section 205 filing.
- ***collaborated with SratOrg on the development of strategic recommendations for the market penetration in the US transmission and distribution markets:*** LEI collaborated with SratOrg, a French consultancy on the development of strategic recommendations for market penetration in the US transmission and distribution markets. As part of this work, LEI and StratOrg performed a detailed analysis of the US market structure, identifying key market players and recent development, as well as barriers of entry and market opportunities for a prospective European investor. LEI travelled to Paris for an internal workshop session with Stratorg and actively participated in the final presentation of the team findings before the client's top managers. Sayad was the principal market researcher and project manager on LEI's side.

- ***provided market analysis to support the due diligence process for an investment in a new 250 MW wind generation project in northern Mexico:*** LEI was engaged by a large private equity company to provide market analysis to support the client's due diligence process for an investment in a new 250 MW wind generation project in northern Mexico. The Project was expected to sign power purchase agreements ("PPAs") with industrial facilities and sell its output under a self-supply ("Autoabastecimiento") arrangement. LEI's scope of work included providing a report detail overview of the Mexican power sector and the self-supply program (Phase I). In addition, LEI under Phase II of the engagement, LEI performed a 20-year forecast for a series of a mix of low voltage, medium voltage and high voltage tariffs identified by the client. Sayad was in charge of developing a 20-year forecast of the tariffs of interest. Deliverables under this project included the (Excel based) tariff model and a Final Report documenting the methodology and the assumptions used in the model.

- ***led the development of an excel-based model to capture and quantify potential revenues of the battery and a value proposition of the storage device along with the marketing strategy:*** LEI was hired to evaluate new revenues opportunities for an alternative storage technology in a sample of US and European energy market jurisdictions. The overarching objective of the client was to identify markets and services maximizing the battery market value, and develop a business plan accordingly. As the project Manager, Sayad led the development of an excel-based model to capture and quantify potential revenues of the battery in both electricity and

ancillary services markets. In addition, Sayad played a critical role on crafting the value proposition of the storage device along with the appropriate marketing strategy to pursue the targeted market opportunities.

- ***helped prepare a report providing an overview of past and current initiatives pertaining to pollutants emissions regulation for future carbon regulation in the US:*** LEI was hired by a large Canadian IPP to prepare a report providing an overview of past and current initiatives pertaining to pollutants emissions regulation with the purpose to inform the potential paths forward for future carbon regulation in the US. The engagement was initiated following the Executive Office of the President released the President's Climate Action Plan ("CAP") to reduce greenhouse gas ("GHG") emissions, and to prepare for the impacts of climate change. Under this engagement, Sayad performed a detail literature review of the President's directive, past Environment Protection Agency ("EPA") regulations, as well as exiting regional carbon reduction programs. The overarching purpose of this exercise was to estimate the potential shape of a future carbon rule in the US (with associate features such as timing, mechanisms, and regulatory framework) based on EPA's legal authority scope, procedures and lessons learned from failed or successful rules implementation. LEI identified various market-based and non-market-based regulatory frameworks/scenarios and ranked them on their relative likelihood based on a set of established criteria including affordability of the regulatory scenario, impact on generation retirement and system reliability, alignment with EPA's precedents, congruency with Presidential directives, consistency with EPA's jurisdiction, and political palatability.

**Due diligence on commercial transactions / assets valuation**

- ***Asset valuation and due diligence on a portfolio of renewable assets:*** London Economics International LLC ("LEI") was retained to provide assistance to the buy-side on the due diligence process in relation to the potential acquisition of a portfolio of hydropower plants in the state of Maine. As part of this process, as a project manager, Sayad led the LEI team that carried out a (i) detailed review of technical and operational documents (provided for each of the target asset) to evaluate the assets' operating performance; (ii) developed a 20-year projection of energy, capacity, and Renewable Energy Credit prices, supplemented by an estimation of the revenue profile outlook for each of the target assets. Finally (iii) LEI carried out a valuation of the portfolio looking at 3 different methodologies ((Discounted Cash Flow, Depreciated Replacement Cost, and Comparable Transactions). The results of LEI's analysis were summarized in a technical report to which LEI attached a reliance letter to support the buyer in its decision making process.

- ***provided an understanding of the dynamics underpinning hydro-dominated power markets as opposed to thermal systems:*** LEI was hired by a private client to provide an understanding of the dynamics underpinning hydro-dominated power markets as opposed to thermal systems. As part of this project, LEI reviewed in detail the dynamics and key drivers of energy markets in a sample of Latin America countries including Colombia, Panama, Brazil and Chile. Colombia was the point of focus of the report, in this respect LEI compared and contrast several aspects of the Colombian markets to other jurisdictions and created a scoring card to

evaluate Colombia against similar jurisdictions. In addition, we provided a detail description of market operations (both energy "Bolsa" and firm energy market "Mercado de Energia Firma") and discussed associated ongoing challenges and potential regulatory changes.

- ***valuated a portfolio of generating assets in Colombia***: LEI was hired by a large Canadian infrastructure company for the purposes of valuing a portfolio of generating assets in Colombia. LEI's scope of work consists of a comprehensive review of the Colombia energy market (including fuel and power market drivers), describe in detail the functioning of both wholesale power market (Bolsa) and firm energy market (Mercado de Energia Firma), develop forecasts of spot prices in order to derive expected revenues for the portfolio. Colombia being a hydro dominated system, as part of its modeling exercise, LEI ran a Monte Carlo simulation to develop a series of probabilities associated with generation profiles of Colombia's hydro resources to reflect the impact of weather conditions and water inflows on hydropower plants' output. LEI summarized its research and modeling results in a final report that was presented to lenders and other interested parties.

- ***provided due diligence analysis and support on the acquisition of a portfolio of small hydropower plants in the Pennsylvania-New Jersey-Maryland ("PJM") region:*** LEI was hired by a large infrastructures investment vehicle to provide due diligence analysis and support on the acquisition of a portfolio of small hydropower plants in the PJM region. The portfolio consisted of a mix of mini and small run-of river hydropower plants. LEI's scope of work was threefold. Firstly, LEI provided an overview of PJM RTO market, describing market fundamentals, key players, supply mix, retirements and new built, as well as discussing historical market trends. Then, we used our proprietary dispatch and simulation cost production model POOLMod to simulate power market dynamics and develop forecasts of energy prices in the assets' location over a 20-year horizon. As part of this modeling exercise, LEI used its in-house capacity market to develop capacity prices forecasts over a similar horizon. Finally given the conventional storage capability of one of the unit, the client requested LEI to provide a description of the frequency regulation market in PJM and to determine potential revenue opportunities for the plant. LEI provided results of its modeling exercise in Excel format and prepared a slide deck summarizing key messages, key findings and recommendations to the clients. Sayad was the project manager.

- ***analyzed revenue / gross margin modules for a district cooling asset being considered for acquisition in Ohio:*** LEI was retained to analyze revenue/gross margin modules for a district cooling asset being considered for acquisition in Ohio. Under this engagement, LEI performed a due diligence review of the information received from the seller (including documentation from the data room) and designed a series of models aiming at quantifying the asset's potential revenues. Part of LEI's scope work also consisted of identifying and assessing the opportunities to enhance and extend the customers base within the Cincinnati existing and future market conditions. As part of its analysis, LEI created an Excel- based model integrating technical (for district cooling technology), financial and market assumptions to derive the asset's gross-profit margin under various assumptions – Flexible features were built in the

model to facilitate the consideration of sensitivity analyses. LEI supplemented the financial model by creating a second model evaluating the impact of competitive solutions on the asset's forecast profit margins. More specifically, the latter evaluated the risks associated with prospective/existing customers forgoing the asset's services in exchange of self- supplying their cooling needs.

- ***analyzed revenue / gross margin modules for various district energy assets being considered for acquisition:*** LEI was retained to analyze revenue/gross margin modules for various district energy assets being considered for acquisition. LEI reviewed information received from the client, including detailed documents in the data room, and presented analysis in a slide deck relating to contract revenues (prices and volumes) and fuel costs (electricity) along with revenue and cost drivers. LEI also presented sensitivity analysis for high/low sales volumes, new customers, expiry dates of existing contracts, fuel costs etc. Sayad led the cost-side analysis and performed a due diligence review of second tier contracts for the assets.

- ***assisted in assessing the economics of a proposed transmission project to interconnect Peru's power market with the Sistema Interconectado del Norte Grande market in Chile:*** LEI was retained to assist a Private Equity Fund in assessing the economics of a proposed transmission project to interconnect Peru's power market with the Sistema Interconectado del Norte Grande ("SING") market in Chile. LEI provided an overview of the electric power markets of Peru and Chile, a 10-year market outlook for Peru and Chile spot electricity prices and a basic analysis of the project's economic impact on the two relevant markets.

- ***provided valuation services for a waste coal facility located in the PJM regional market:*** Specific tasks consist of i) due diligence review of documents such as past financial statements, operational statistics report, fuel agreements and PPAs; ii) forecasts energy and capacity prices in the PJM regional market; iii) create a pro forma financial model to evaluate the market value of the plant as of expiration of its PPA; iv) writing a final report documenting assumptions, methodologies used and modeling results.

- ***assisted a large foreign utility in its bid strategy for acquisition of generating assets in international jurisdictions:*** Sayad led the market analysis for assets located in Mexico. Under this assignment, Sayad analyzed macroeconomic risks likely to impact operations of the assets in the long run (political, economic, financial and regulatory risks), and modeled the Mexican electricity market in order to determine future profitability of the assets.

**Testimony / market monitoring / miscellaneous**

- ***Expert witness and technical support on the review of a contentious formula rate tariff*** London Economics International was hired to provide technical support on a dispute between a cooperative organization and a departing co-op member over the formula rate design proposed by the cooperative organization. LEI represented the interest of the departing cooperative member and as such carried out a detailed analysis of the impact of the proposed formula rate and review its applicability against the principles of cost causation and other rate design best practices. LEI provided support throughout the litigation case including review of

testimonies, developing testimonies and rebuttal testimonies, drafting and reviewing discovery requests.

- ***Technical assistance and expert witness on membership dispute:*** LEI was retained by Tipmont REMC ("Tipmont") to calculate the potential stranded cost for Wabash Valley Power ("WVAP") as a result of the departure of Tipmont's load. Stranded costs represent costs which a utility (in this case, WVAP) would have recovered through regulated rates, but the recovery of which may now be impeded because of regulatory changes or other circumstances. In recent years, termination of long term arrangements between the two parties had created stranded cost issues. Tipmont was seeking to terminate its arrangement with WVAP and explored wholesale power supply alternatives. LEI performed an independent stranded cost analysis based on the methodology adopted by FERC in Order 888 and further refined in subsequent dockets. LEI further assisted Tipmont throughout the litigation proceeding with a series of tasks including drafting testimonies and rebuttals, reviewing and drafting discovery requests and providing analytical support on legal briefs.

- ***Technical assistance on a litigation process regarding the expansion of ISO territory***: LEI was hired by the PUCT to provide evaluation services pertaining to the announced decision by Entergy to join the Midwest Independent Transmission System Operator ("MISO") Regional Transmission Organization ("RTO"). LEI evaluated several existing cost/benefit studies related to Entergy's decision to join MISO over the Southwest Power Pool ("SPP") and will be providing quantitative and qualitative analysis of specific costs/benefits attributable to ETI and its customers following membership in either MISO or SPP, including but not limited to net trade benefits, transmission cost allocation, governance issues, and continued participation in the Entergy Service Agreement following RTO membership.

- ***supported in preparing testimony for Maryland PSC:*** **s**upported LEI's principals in preparing testimony on behalf of the Staff of the Maryland Public Service Commission ("MPSC"); the testimony involved a cost-benefit analysis in relation to the proposed transaction between Constellation Energy and Électricité de France ("EDF") whereby EDF would purchase from CEG a 49.99% interest in Constellation Energy Nuclear Group. Sayad specifically performed a cost-benefit analysis to evaluate the impact of the construction of a new nuclear power plant, Calvert Cliffs 3, concurrently to the success of the transaction, on customers of Baltimore Gas & Electric (a subsidiary of Constellation Energy).

- ***evaluated outlook of competition and potential for market power:*** LEI was hired to evaluate outlook of competition and potential for market power stemming from the FirstEnergy and Allegheny Power merger. Sayad's work involved measuring market concentration under a series of simulated states of the markets and analyzing impact on energy prices. The power market study was conducted by running Herfindahl-Hirschman Index ("HHI") analysis.

- ***assisted in producing a comprehensive report on revenues decoupling in the US:*** LEI was hired by a major foreign company to produce a comprehensive report on revenues decoupling in the US. As a co-writer of the report, Sayad conducted extensive research on history of decoupling in US electricity and natural gas markets, identified advantages and weaknesses

of decoupling and provide thoughtful insight on challenges featuring decoupling implementation to the client.

**Curriculum Vitae**

# HANNAH BRAUN

## *Senior Consultant, London Economics International LLC*

LONDON ECONOMICS

**KEY QUALIFICATIONS**:

Hannah joined London Economics International LLC ("LEI") in August 2021. She has 10 years of professional experience in the energy sector.

She began her career at the PGNiG Capital Group (Polskie Górnictwo Naftowe i Gazownictwo S.A.), the youngest of five core team members who comprised the company's Warsaw-based LNG Department. There, she helped negotiate several long-term LNG supply contracts with major international sellers. These cargoes are currently being delivered to the Świnoujście LNG terminal in northern Poland. A skilled researcher and writer, Hannah has also contributed to academic works focusing on natural gas market dynamics, sustainable and equitable renewable energy project development, climate finance, and energy subsidy reform.

At LEI, Hannah applies her analytical, research, and writing skillsets to a wide variety of projects focusing on, for example, regulatory and ratemaking regimes and power market assessments. Hannah also serves as the secondary modeler of the ISO New England market and regularly attends NEPOOL committee meetings, keeping up to date on all ISO and state-wide initiatives and developments.

Hannah received her Bachelor of Arts with Honors in International Relations from Brown University in 2014. She graduated from Columbia University's School of International and Public Affairs in 2020 with a Master of International Affairs in Energy and Environment, specializing in both Management and East Central Europe. She is a dual citizen of the US and Poland.

**EDUCATION:**

Brown University, Providence, Rhode Island, B.A. in International Relations, 2014. Magna Cum Laude, Honors, Phi Beta Kappa. Watson Undergraduate Fellow. Winner of the Mark and Betty Garrison Prize for best thesis in international relations and foreign policy analysis and the Dean of the College's Distinguished Senior Thesis Award.

Columbia University, New York, New York, M.I.A. in Energy & Environment, 2020. Recipient of the Harriman and Davis Fellowships, Fellow at the University Consortium (St. Anthony's College, University of Oxford).

**EMPLOYMENT RECORD:**

**From:** August 2021 **To:** present

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|---|---|
| **Employer:** | *London Economics International LLC; Boston, MA*<br>Senior Consultant (March 2024 – Present), Consultant (November 2021 – March 2024), Research Associate (August 2021 – November 2021) |
| **From:** July 2021 | **To**: December 2021 |
| **Employer:** | *Regenerative Crisis Response Committee*<br>Research Fellow |
| **From:** June 2020 | **To**: December 2021 |
| **Employer:** | *EnergyPolicyTracker.org*<br>Curator – Poland and European Institutions |
| **From:** March 2020 | **To**: June 2021 |
| **Employer:** | *The World Bank*<br>***Short Term Consultant*** |
| **From:** October 2020 | **To**: May 2021 |
| **Employer:** | *Moerenhout Consulting*<br>***Independent Consultant*** |
| **From:** January 2020 | **To**: May 2020 |
| **Employer:** | *Ministry of Mines and Energy of Colombia; New York, NY*<br>Graduate Consultant |
| **From:** June 2019 | **To**: August 2019 |
| **Employer:** | *European Bank for Reconstruction and Development; Warsaw, PL*<br>Intern, Banking |
| **From:** November 2018 | **To**: June 2019 |
| **Employer:** | *Center on Global Energy Policy, Columbia University; New York, NY*<br>Student Research Assistant |
| **From:** 2015 | **To**: 2016 |
| **Employer:** | *Agnia Grigas, Inc. for* The New Geopolitics of Natural Gas<br>Research Assistant (April 2015 - December 2016) |
| **From:** 2014 | **To**: 2018 |
| **Employer:** | *PGNiG Capital Group; Warsaw, PL and Munich, DE*<br>Specialist (October 2016 - June 2018), Junior Specialist (October 2015 - September 2016), Trainee in LNG Business Development (April 2015 - September 2015), LNG Analyst-in-Training (January 2015 - March 2015), Intern (September 2014 - December 2014) |

**SAMPLE PROJECT EXPERIENCE:**

The projects below briefly describe work that Hannah has conducted over the course of her career.

**Ratemaking and performance-based regulation**

- ***providing support in a gas rate case***: In 2025, LEI was retained as consultant to a regulator in the US mid-Atlantic in response to a regulated gas utility's application for a rate increase. Hannah reviewed the utility's rate case application, focusing specifically on the Company's proposed adjustments to wages and salaries, employee headcount, and accelerated pipeline replacement program. Hannah also reviewed testimonies on these matters submitted to the docket by intervening parties. Together with the LEI team, Hannah helped to draft key takeaways and draft recommendations in memo format prepared for regulatory staff.
- ***providing supporting testimony on performance-based regulation ("PBR") (gas distribution):*** LEI was retained to support Yankee Gas Services Company d/b/a Eversource Energy in its 2024/2025 rate case application (Docket No. 24-12-01), in which the company also proposes a PBR framework. As part of its scope of work, LEI conducted a total factor productivity study to support the PBR framework (i.e., to support the proposed level of X factor and incremental capital funding mechanisms). LEI was also asked to provide the theoretical context for PBR and best practices in PBR design. Hannah helped prepare materials for written testimony covering the latter.
- ***analyzing a utility's multi-year rate plan ("MRP") application***: LEI was retained to serve as a consultant to a regulator in the US mid-Atlantic on a regulated electric utility's rate case application requesting an MRP. Hannah reviewed the utility's rate case filing as well as filings made by stakeholders, focusing specifically on the application's jurisdictional cost of service proposal and methodology to estimate (forecast) revenue sales and number of customers over the term of the MRP. She also attended and assessed parties' positions at regulatory meetings, as well as participated in working group calls with Commission staff and its other consultants in this proceeding to discuss key takeaways from the review of filings made to the docket. Moreover, she helped to draft PowerPoint slides and sections of a rate case memo prepared for Commission staff containing procedural key takeaways and recommendations on relevant topics including but not limited to performance incentive mechanisms, management audits, and best practices in designing multiyear rate plans. Hannah, together with the LEI team, also supported Commission staff in fine tuning the final report delivered to the Commissioners.
- ***advising on best practices in performance-based regulation (electric distribution):*** LEI was engaged by Eversource Energy d/b/a Connecticut Light & Power as its advisor during the state's proceeding on PBR (Docket No. 21-05-15 and 21-05-15RE01). LEI has been tasked with evaluating the state's PBR-related proposals against best practices in PBR-based regulatory design and given the context of the state's regulatory and power sector structures. One of LEI's tasks includes considering suitable performance incentive mechanisms ("PIMs"). LEI has also provided support in the design of a revenue adjustment mechanism ("RAM") under a multi-year rate plan ("MRP") for the PBR framework. In this engagement, Hannah prepared case study presentations that examined the MRP, RAM, and PIM constructs of other markets;

participated in stakeholder workshops held by the state regulator; drafted briefing memos on these meetings; assessed and critiqued straw proposals prepared by regulatory staff and written comments submitted by proceeding stakeholders; and co-wrote PBR technical statements that were filed to the state's dockets.

- ***reviewing ratemaking procedures in the electric, gas, and water sectors:*** LEI was retained by the Iowa Utilities Board to assess Iowa Code Provisions and ratemaking procedures. As part of this engagement, LEI evaluated the adequacy and efficiency of the state's ratemaking laws, procedures, and administrative rules, with a specific focus on advance ratemaking; analyzing the ratemaking laws and procedures of a sample case study of states that are comparable to the Iowa context; assessing the rates and trackers (riders) of the rate-regulated utilities; and identifying potential changes to ratemaking procedures and rules given the research conducted, policy charrettes held with proceeding stakeholders, and anticipated future industry supply conditions. Among other tasks, Hannah reviewed Iowa statute pertaining to the powers of the Iowa Utilities Board as well as the contested case proceedings and filings spanning the late 1990s to the time this work was conducted. Hannah also provided support on PBR-related analyses.
- ***providing support on best practices pertaining to multi-year rate plan structures:*** For the Maine Public Utilities Commission ("MPUC"), LEI prepared a technical report covering best practices in multi-year rate plan development. LEI reviewed rate case filings submitted by one of the state's electric distribution utilities and discussed the MPUC's desired outcomes for this rate case. Using this information, LEI drafted its report covering various elements of multi-year rate plans and PBR design that are used across jurisdictions in both the US and internationally, as well as the advantages and disadvantages of their adoption in the regulatory framework. This technical information was supplemented with case studies. Hannah provided support in the form of meeting with the client regulatory, reviewing the utility's filings, conducting research, and drafting and editing the report.

**Reliability and resource adequacy**

- ***investigating new reliability and resource adequacy metrics and compliance measures for island utilities:*** LEI, together with Grid Advisors, was retained by the Hawaii Public Utilities Commission to help develop new reliability and resource adequacy metrics, implementation measures, and a compliance plan to apply to the regulated electric utilities in Hawaii. Over this two-year engagement, LEI and Grid Advisors will study existing reliability and resource adequacy metrics already in place in Hawaii and those applied in other jurisdictions (particularly island jurisdictions), as well as best practices and new concepts for reliability and resource adequacy in an increasingly renewable (intermittent) world. LEI and Grid Advisors will also work with local stakeholders to develop a menu of options for moving forward.

**Business models and investment support**

- ***evaluating market potential for proposed hydropower asset acquisition:*** For a private entity, LEI prepared an assessment of the US hydropower market, with a specific focus on hydropower assets in the Pacific northwest. Hannah prepared an overview of asset development across the country, an analysis on hydropower's classification in state

renewable portfolio standards ("RPS"), the interest of utilities and corporations in purchasing electricity generated from hydropower through power purchase agreements ("PPA"), and the impact of shifting weather patterns on water potential. This helped inform LEI's client of the potential economic value of acquiring existing hydropower assets.

- ***valuing pre-customer discount bill credits in a New England state:*** LEI was retained to provide a private investor with a forecast of a New England state's residential kWh credit and non-residential tariff rate net energy billing programs for three different electric distribution utilities. Hannah provided research, data, and analysis on the state's standard offer, transmission and distribution, and tariff prices, as well as a sensitivity analysis of LEI's price forecast for the two net energy billing programs under the three utilities of interest.
- ***support in understanding the US northeast offshore wind market:*** For a European investor, LEI assembled technical information on the regulatory, market, and policy conditions relevant to offshore wind development in the US northeast. As part of this assignment, Hannah provided an explanation of the offshore wind development process in two New England states, including context on the states' procurement processes, contract and pricing structures, regulatory considerations, and local content requirements.

**Transmission assessment**

- ***preparing an independent market assessment for the US Department of Energy's Transmission Facilitation Program ("TFP"):*** For a large utility in the US northeast, LEI was retained to prepare an independent market report to be submitted as part of the utility's application to the TFP. The TFP, administered through the Building a Better Grid Initiative, supports the Bipartisan Infrastructure Law. LEI was tasked with determining the energy market impacts of the utility's proposed project, as well as the potential marketability of the proposed line. To this end, LEI used its proprietary tool POOLMod. LEI was also responsible for evaluating the macroeconomic impacts resulting from the construction and operation of the proposed project. As a supplemental analysis, LEI also provided an extreme weather analysis, which examined the benefits of the proposed project under system stress events. Hannah supported POOLMod modeling and extreme weather data analysis as well as served as the primary REMI E3+ modeler.
- ***HVDC interconnection business and operation models:*** On behalf of a large utility in the US northeast, LEI performed an assessment of the current use of HVDC interconnectors across the US. LEI's discussion included a review of existing interconnectors, their use, and business models. LEI further discussed current market rules pertaining to inter-jurisdictional HVDC transmission links, rule changes contemplated by various ISOs to enable increased market participation from these resources, together with potential business models identifying revenue streams and beneficiaries for future HVDC transmission assets. Hannah conducted extensive research on this project on these topics.

**Independent evaluator of large-scale procurement processes**

- ***assessing all-resource procurement process:*** LEI was retained as the Independent Evaluator of Idaho Power Company's solicitation of resources for delivery in the Oregon market. LEI was retained for both the 2026 and 2028/2029 All-Source RFPs. For these engagements, Hannah reviewed the Company's RFP drafts along with all accompanying exhibits and

responses to data requests. This included evaluations of the information requested by Idaho Power from bidders, the proposed non-price and price scoring methodologies, the company's financial models, and assumptions used in the company's AURORA modeling exercises. Hannah also reviewed the reasonableness of the shortlists of projects compiled by Idaho Power, quantitative/ sensitivity analyses conducted by the Company, and other assessments requested by the regulator. Hannah took part in regular meetings with Idaho Power, the Oregon Public Utilities Commission staff, and stakeholders participating in the docket. LEI was also requested by the regulator to monitor the negotiation of contracts between Idaho Power and final shortlist bidders; as part of this scope of work, Hannah attends contract negotiations calls, reviews redlines shared by parties, and assesses the unique risks of commercial terms for ratepayers.

**Litigation support or support in regulatory proceedings**

- ***providing support in a multi-year integrated grid plan proceeding:*** LEI was retained to provide testimony in Docket No. 22-0486/23-0055 at the Illinois Commerce Commission on the Commonwealth Edison Company's ("ComEd") proposed multi-year integrated grid plan. LEI was asked to provide its professional opinion on the reasonableness of ComEd's grid plan and its compliance with applicable law. Hannah helped review ComEd's submissions (both the initial and refiled grid plans) and conducted research that supported LEI's testimony. Topics covered in LEI's testimony included colocation (including colocation configurations for datacenters), best practices in load forecasting and scenario analysis, non-wire alternatives (and other considerations for the "utility of the future"), and the bill impact of the proposed investments.
- ***producing economic impact analysis for an outage resulting from the impairment of critical transmission infrastructure:*** LEI was hired by a New England utility to carry out an independent expert analysis regarding the potential economic losses (and other associated costs) to electricity consumers affected by a highly critical transmission system component forced out of service. LEI relied on the concept of Value of Lost Load ("VoLL") and understanding of the scope of impact to estimate the economic impact of such outage. The purpose of this analysis was to determine whether the investment in infrastructure (ballistic physical barrier) proposed by the utility to limit the probability of occurrence (or the intensity) of a high-impact outage could be economically justified at the proposed cost. Hannah worked on both the afore-described quantitative task as well as drafted and edited the final report to the client, which was to be filed with the state regulator.
- ***providing market research used in a legal proceeding:*** LEI was retained as an independent expert in a legal proceeding on a renewable energy case in North America. LEI was responsible for preparing an expert report consisting of research on the types and costs of services typically provided by development service companies to renewable energy projects. Hannah provided supporting materials from sources including the US Securities and Exchange Commission ("SEC"), publicly available legal and bankruptcy proceedings, and other US-agency websites, among other sources.

**Sustainable and renewable project development**

- ***evaluating the true cost of renewable energy integration with the grid:*** LEI was retained by a Southeast Asian entity responsible for electricity planning and management to provide an in-depth analysis of the costs associated with the integration of solar PV technology into the grid system. As part of this engagement, LEI was tasked with formulating a true integration cost of solar PV and subsequently developing a tariff framework that fairly allocates and distributes these costs to applicable entities (ratepayers, solar developers, traditional generators, etc.). LEI then determined the socioeconomic impacts of increased solar penetration. In addition to other tasks, Hannah primarily engaged in numerous stakeholder meetings and conducted literature reviews on how renewable integration costs are calculated and mitigated in other international jurisdictions, with a special focus on the UK.
- ***strategizing new project development and investment standards:*** The Ministry of Mines and Energy of Colombia envisions that the northern-most region of La Guajira will become a core development spot for renewable energy projects. This will first require consensus from local and indigenous communities that have been negatively impacted by coal production from the Cerrejón open-pit mine. Hannah was a core team member who conceptualized and authored a guidebook and ESG- and SDG-based compliance checklist for the private sector. This guidebook explained proposed corporate obligations under the novel Community Partnership Agreement, a legally binding contract that holds companies accountable for developing resources and projects sustainably and equitably. The final report championed stringent investment standards via cumulative environmental impact assessments, the creation of a Social Wealth Trust Fund, and the introduction of cross-default.

**Fuel procurement**

- ***supporting diversification of natural gas supply:*** The strategy of both the Polish Oil & Gas Company ("PGNiG S.A.") and the Polish government was to develop the country's counterparty portfolio and diversify natural gas supplies in order to replace Gazprom imports by 2022. The LNG Department was tasked with achieving these goals. Hannah critiqued and negotiated commercial terms of NDAs, term sheets, and MSPAs. This led to the signing of LNG supply agreements, including: a 5-year contract for 9 US cargoes with Centrica LNG Co. Ltd. (November 2017), 20-year SPAs with Venture Global LNG (October 2018) and Port Arthur LNG (December 2018), and a 24-year contract with Cheniere Marketing International LLP (November 2018). Additionally, Hannah facilitated the application for a UK Gas Shipper License and the purchase of two spot LNG cargoes. Furthermore, she built a dynamic, interactive Excel shipping calculator that computed final LNG landing price at various global ports.

**Climate finance and economic relief packages**

- ***reviewing energy and climate focus of COVID-19 economic relief packages:*** The Energy Policy Tracker is an initiative consisting of six core organizations: International Institute for Sustainable Development ("IISD"), Institute for Global Environmental Strategies ("IGES"), Oil Change International ("OCI"), Overseas Development Institute ("ODI"), Stockholm Environment Institute ("SEI"), and Columbia University Center on Global Energy Policy. This core group is joined by numerous contributing partners located in Latin America, Europe, and Asia. The purpose of this initiative is to track public money allocation for energy in COVID-19 recovery packages. Hannah was the Curator for both Poland and European

Institutions, updating the Tracker with energy- and climate-related spending on a weekly basis.

- ***drafting whitepapers with suggestions for the US financial system in light of climate change:*** The Regenerative Crisis Response Committee ("RCRC") is a group of ten leading experts in economics, law, and public policy working to guide US monetary and financial policy post-COVID-19 in a greener, more sustainable direction. The objective is to mitigate the effects of climate change on the US economy with new federally-backed policies and incentives. Following COP26, the RCRC published three major whitepapers on the following subjects: green mortgages, green federal procurement, and carbon offsets. Hannah conducted research and drafted these whitepapers.

**Subsidy reform support**

- ***recommending improvements in reform support to underdeveloped and developing nations:*** The World Bank's Energy Sector Management Assistance Program ("ESMAP") supports governments across Latin America, Europe, Africa, and Asia in implementing subsidy reform programs. This includes both technical assistance as well as stakeholder management (i.e., performing political economy analyses and providing support to relevant ministries building consensus for tariff increases). Hannah took stock of the World Bank's design and conduct of 60+ global fossil fuel subsidy and tariff reform programs. She then drew lessons that were used to help improve the Bank's support to governments.
- ***recommending strategies for World Trade Organization ("WTO") subsidy negotiations:*** Generous subsidies to the fisheries industry have led to overfishing and, subsequently, an unhealthy drop in fishery stocks. IISD was hired to provide advisory support to countries scheduled to take part in fishery subsidy negotiations at the WTO-level. These countries are eligible for differential treatment due to their status as least-developed countries. For this project, Hannah produced a confidential scoping study for the Government of Myanmar on pathways to fishery subsidy reform and suggestions for the country's negotiation strategy.

**Market and policy research and analysis**

- ***reviewing policies and incentives for electric vehicle uptake:*** The Organization for Economic Cooperation and Development ("OECD") and IISD were chosen to provide support to policymakers seeking to increase electric vehicle ("EV") uptake. Hannah was subcontracted to provide research support. She compiled a literature review of over 100 sources on lithium-ion battery and raw material recycling, focusing on EV recycling state-of-play, regulatory and trade barriers, and technological developments. She then compiled a checklist of 85 policies, regulations, and incentives that attracted public and private investment in the EV and battery value chains of major global markets.
- ***studying National Energy and Climate Plans in Central and Eastern Europe:*** The European Bank for Reconstruction and Development's ("EBRD") Green Economy Transition ("GET") program helps countries transition into green, low-carbon, and resilient economies. It is important to understand national energy contexts when strategizing and plugging-in GET programs. As such, Hannah assessed and deciphered the National Energy and Climate Plans of Estonia, Hungary, Latvia, Lithuania, Slovakia, and Slovenia to inform EBRD Warsaw's upcoming GET investments.

- ***investigating the status of European Projects of Common Interest ("PCIs"):*** PCIs are priority projects for connecting the European Union's ("EU") energy networks. Despite their importance at the EU-level, many projects have been significantly delayed. Hannah investigated the dormant status of gas infrastructure PCIs in Central and Eastern Europe. She also studied the reluctance to establishing an Energy Union stemming from a perceived challenge to national sovereignty.
- ***analyzing US gas market viability:*** As a research assistant for *The New Geopolitics of Natural Gas* published by Harvard University Press in 2017, Hannah drafted and edited book content on the history of the natural gas industry; natural gas pipeline/ LNG market and infrastructural developments in North America, Europe, Africa, and Asia; shifts in gas pricing schemes; discourse on global climate change; as well as on the implications of the US shale revolution on both the global gas market and on European energy security.

## Curriculum Vitae

# BARBARA PORTO

*Senior Consultant, London Economics International LLC*

LONDON ECONOMICS

## KEY QUALIFICATIONS:

Barbara is a Senior Consultant at London Economics International LLC ("LEI"), where she supports the firm's technical engagements with regulators, utilities and private equity firms on issues regarding market design, project evaluations, wholesale price analysis, and utility management/performance auditing. Barbara is LEI's lead expert and modeler for the California ISO's energy and capacity markets, responsible for analyzing changes in market rules and system dynamics. Barbara also serves as a key modeler for LEI's gas pricing model.

Prior to LEI, Barbara was an Analyst at ENEVA, the largest private thermal power generation company in Brazil, where she was responsible for market intelligence reports and procurement strategic planning.

## EDUCATION:

Hult International Business School, Cambridge, MA, United Stated, MBA - Master of Business Administration, 2014.

COPPEAD/UFRJ, RJ, Brazil, Finance Certificate, 2010.

UNESA, RJ, Brazil, Bachelor of International Relations, 2010.

## EMPLOYMENT RECORD:

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|---|---|
| **From:** 2015 | **To:** present |
| **Employer:** | *London Economics International LLC, Boston, MA, United States* |
| | Consultant |
| **From:** 2008 | **To:** 2013 |
| **Employer:** | *ENEVA (subsidiary of E.ON AG), Rio de Janeiro, Brazil* |
| | Analyst |

## RECENT PROJECT EXPERIENCE:

- ***LEI's Continuous Modeling Initiative (CMI):*** As lead California market, Barbara tracks and evaluates the impact of on-going structural and regulatory changes in the electricity market to produce detailed price forecast and associated analyses on an ongoing semi-annual basis using LEI's in-house price forecast software, POOLMod.

- ***Reliability metrics case studies:*** LEI was engaged by a law firm to provide market design, regulatory, and economic advice to assist the Firm in rendering legal advice to Luminant (Vistra Corporation) in litigation challenging regulatory action, as well as regulatory advocacy. The engagement consisted of three Phases: 1) analysis and research to support proof-of-concept and initial estimates; 2) preparation of written testimony and litigation support; and 3) advisory on market design options. Barbara assisted in Phase 3 with case studies on reliability metrics and standards in the state of California and Brazil.
- ***Montana-Dakota Utilities rate case:*** LEI was engaged by the North Dakota Public Service Commission as the outside independent technical consultant supporting the Commission's ratepayer advocacy staff in a rate case involving Montana-Dakota Utilities. LEI examined key components of the rate case, which included the depreciation study, tax rates, environmental upgrades, transmission investment, the ROE/common equity ratio, amortization for early retirement of coal plants, and impacts on residential rates versus impacts on other classes of service. LEI prepared data requests, and provided written and oral testimony. Barbara worked on the sections of the audit related to depreciation and environmental upgrades.
- ***Management audit of Entergy Mississippi:*** LEI was engaged to conduct the annual fuel procurement and management audit of Entergy Mississippi. The LEI team assessed a complex array of issues including the Company's organization and staffing, risk management and company controls, coal procurement and inventory management, coal transportation, natural gas procurement and trading, plant operations and generation portfolio management, energy procurement and trading, and costs associated with the Grand Gulf nuclear plant. LEI prepared a comprehensive report detailing its analysis, findings, and recommendations, and appeared before the Mississippi Public Service Commission to present its findings and recommendations.
- ***Ancillary service revenue streams for long-duration storage in California:*** LEI was engaged by a developer to evaluate potential revenue stream of its battery storage technology that is capable in providing very long-duration storage. Specifically, LEI is helping the client understand the value of regulation, spinning reserve, frequency regulation, voltage support and other revenue streams that its battery can earn in the California market under current market structure and under future potential market designs.
- ***Financial Transmission Rights ("FTRs") and Auction Revenue Rights ("ARRs") Market Review:*** LEI has been engaged by a Regional Transmission Operator ("RTO") to conduct a holistic assessment of its FTR markets and ARRs to determine whether the current ARR/FTR processes constitute appropriate mechanism to ensure that load receives the optimal value of the transmission system for which it is paying through its transmission access charges. Barbara was responsible for analyzing the FTR/ARR metrics and target allocation process, as well as comparing it to similar mechanisms in other jurisdictions.
- ***Audit of Legacy Generation Resource Rider for Ohio Valley Energy Company:*** LEI was engaged by the Public Utility Commission of Ohio to perform an audit of the prudency and performance of the generation purchase riders of Duke Energy Ohio, AEP Ohio, and AES Ohio for the output of two coal plants operated by Ohio Valley Energy Company ("OVEC"). Barbara was responsible for examining OVEC's participation in the PJM market and the fuel and variable cost expenditures to determined whether they were prudently incurred.

- ***Hydro portfolio due diligence:*** LEI was hired by a private equity firm to provide technical assistance and due diligence on the acquisition of a portfolio of hydropower projects located in multiple states across the US. The Projects consisted of a mix of run of river hydro and large pumped storage at various level of development. As part of its due diligence, LEI carried out a general review of the hydropower and pumped storage markets to evaluate the relative competitiveness of these technologies especially in markets with high renewables and storage penetration; LEI also developed a 20-year forecast of revenue streams for the relevant assets in the market of interests and reviewed the assets marketability post contract expiration. Finally, LEI reviewed key offtake contract to make recommendations on replicability (or lack thereof) of such contracts especially in highly competitive regions. Barbara assisted with benchmark research to analyze the replicability of the proposed commercial transaction.
- ***Due diligence on a potential wind portfolio acquisition:*** LEI was engaged by an infrastructure investment fund to provide consulting and advisory services in support of due diligence efforts on a potential wind portfolio acquisition in ISO-NE and California. The scope of the project included reviewing data room materials, critically reviewing a market report prepared by the sell-side consultant, preparing independent long-term 20-year energy and capacity price forecast for the target assets under two different scenarios, one reflecting a base case scenario with nation-wide carbon tax implemented by 2028, and another reflecting decarbonization goal achieved through non-carbon tax policies. Barbara was responsible for the California portion of the project, conducting extensive and detailed review of the materials provided, additional research on various topics, and performing the California modeling activities.
- ***Management audit of fuel adjustment clause for Entergy:*** LEI was engaged by Louisiana Public Service Commission ("LPSC"), Docket No. X-35523, to perform an audit of the Fuel Adjustment Clause filings of Entergy Louisiana, LLC. Barbara assisted with developing and analyzing data requests to evaluate if fuel costs were prudent and in compliance with LPSC orders.
- ***Audit of fuel adjustment clause for Entergy Louisiana:*** LEI was engaged by Louisiana Public Service Commission, Docket No. X-36643, to perform an audit of the Fuel Adjustment Clause filings of Entergy Louisiana. The audit involved detailed examination of monthly true-ups of incurred costs with billed costs; the appropriate of interest rates as applied to over-recovered or under-recovered costs; examination of the impact of deferred costs; reconciliation of expenses recorded in FERC Form 1 account categories ("as booked") with expenses included in monthly fuel adjustment clause filings; the prudency and reasonableness of costs incurred for oil, gas, coal, and nuclear fuel and transportation, and an assessment operating performance of utility generating assets. Barbara worked on the sections of the audit related to fuel and purchase power costs, developing and analyzing data requests to evaluate if such costs were prudent and in compliance with LPSC orders.
- ***Audit of federal environmental adjustment clause for Entergy Louisiana:*** LEI was engaged by the Louisiana Public Service Commission to perform an audit of the Federal Environmental Adjustment Clause ("FEAC") filings of Entergy Louisiana, LLC ("ELL"). The assignment included identifying any irregularities, including but not limited to, incorrect assessment of calculations and recovery of unauthorized expenses via the FEAC. LEI

examined utility purchases and sales of air emission credits needed to comply with the Clean Air Act Amendments ("CAAA") of 1990 as well as the Clean Air Interstate Rule ("CAIR") and its successor, the Cross State Air Pollution Rule ("CSAPR"). LEI made findings and recommendations concerning whether the costs passed through the adjustment clause were or were not reasonable and prudent, and whether the costs were appropriate for recovery in the EAC mechanism and consistent with LPSC Orders and rules. Barbara supervised and directed the audit.

- ***Audit of fuel adjustment clause for Cleco Power:*** LEI was engaged by Louisiana Public Service Commission ("LPSC"), Docket No. X-35522, to perform an audit of the Fuel Adjustment Clause filings of Cleco Power. Barbara assisted with developing and analyzing data requests to evaluate if fuel costs were prudent and in compliance with LPSC orders.
- ***Application for firm transportation on a gas pipeline:*** The MA Attorney General's Office of Ratepayer Advocacy ("AGO") engaged LEI to examine the application of National Grid d/b/a Boston Gas for approval to execute a contract with Algonquin, for firm transportation ("FT") on the Atlantic Bridge Project (DPU 19-132). The project included examining National Grid's projections of gas demand and its assumed resources to meet demand; examining the Assigned Precedent agreement for the FT as well as other documents; and providing a critique of the assumptions driving National Grid's cost-benefit analysis. Barbara assisted with reviewing briefs, developing interrogatory requests, and evaluating the responses to such requests.
- ***Stranded cost assessment:*** LEI was retained by a Midwest cooperative seeking to cease purchasing supply from the incumbent and rather opt for an alternate supply provider. As part of the engagement, LEI prepared a critique of the stranded cost estimate provided by the incumbent provider and calculated its own estimate of the stranded cost payment based on FERC's policy guidelines in Order 888. LEI's calculation of market value for the released energy and capacity from the incumbent t provided was based on its own forecast of energy and capacity prices in the MISO markets. LEI's report was filed with FERC as part of the litigation procedures. Barbara was responsible for the capacity market analysis, reviewing thousands of capacity transactions in the MISO region.
- ***2019 Transmission + storage:*** For a transmission developer in the in Northeast, LEI modeled various portfolios of renewable generation assets (including wind, solar, and hydro resources) together with various quantities and technologies of storage resource to analyze, and optimize, the capacity factor and delivered price for energy on the proposed HVDC transmission line. LEI also modeled customer load at the withdrawal end of the line together with additional storage to analyze the benefits of these storage resources to provide load-following service. Barbara assisted with research on the costs and technical specifications of various storage technologies.
- ***Economic development benefits of the CAES:*** LEI was engaged by Range EES to analyze the local economic development benefits associated with the construction and operations of a Compressed Air Energy Storage ("CAES") project at the site of the soon-to-be-retired Intermountain Power Project plant in Millard County, Utah (the "Project") using the REMI PI+ model. Barbara assisted the REMI modeller with research, conducting model runs and in the composition of the final report.

- ***Fuel Audit of Mississippi Power Company:*** LEI was engaged for a two-year term to conduct the annual management audits of the oil, gas, coal, nuclear fuel, and energy procurement activities of Mississippi Power Company. The LEI team assessed a complex array of issues including fuel and energy contract terms and the prudency of fuel procurement and inventory practices. LEI appeared before the Commission to present and defend findings. Barbara worked on the procurement and inventory management sections of the audit related to natural gas and coal.
- ***OPG TFP study 2019:*** LEI was engaged to support Ontario Power Generation in relation to its second-generation hydroelectric payment amounts price-cap application before the Ontario Energy Board ("OEB"). The project involved performing an updated TFP study reflecting the OEB's 2017 Decision on the first-generation price-cap index. Other key tasks were the preparation of analysis and written evidence assessing whether the inflation factor and treatment of the Capacity Refurbishment Variance Account remain appropriate. Barbara worked on the inflation factor, physical TFP, coauthored the report and assisted on information-gathering.
- ***Consultancy Study on Effective Carbon Prices:*** As part of a consortium, LEI was hired by the NCCS to undertake a study on effective carbon prices faced by energy-intensive manufacturing sub-sectors in jurisdictions across Asia, Middle East, Europe, and North America. Specifically, LEI was tasked with studying carbon policies in China, Middle East, Taiwan, USA, and Canada. The deliverables, consisting of a report and a dashboard tool, allowed the NCCS to compare effective carbon prices across competitor jurisdictions in these key manufacturing sectors and thus inform current and future policy decisions regarding the level of Singapore's carbon price and wider climate change policy. Barbara was responsible for the Panama study.
- ***Fuel Audit of Entergy Mississippi:*** LEI was engaged by a public service commission to audit management activities of a major vertically-integrated utility in the MISO region. LEI assessed the utility's practices for economical purchase and use of fuel and electric energy, assessed relevant fuel and energy contract terms, investigated the operations of the utility's coal and nuclear generation units, and reviewed the prudency of coal inventory levels and inventory control procedures. Barbara worked on the procurement and inventory management sections of the audit related to natural gas, oil, and coal.
- ***Audit of AEP Ohio Alternative Energy Rider:*** LEI was engaged in 2018 by the Public Utility Commission of Ohio to perform a management/performance audit of the Alternative Energy Rider of the Ohio Power Company (AEP Ohio). LEI examined processes involved in procuring RECs and SRECs. LEI compared and benchmarked AEP Ohio RECs and SRECs costs and other operational results against data from public sources. LEI created a working model of the true-up process and provided quantitative results comparing the impact of quarterly versus semi-annual true-up periods on the utility and on ratepayers. Barbara performed analysis on RECs benchmarking, inventory, and compliance, as well as the cost of compliance and the approach used by AEP Ohio to calculate the cost of RPS compliance.
- ***Consulting Services and Forecasts Related to Avoided Energy Supply Costs:*** LEI was retained to assist in the review of the avoided energy supply costs as reported in the Avoided Energy Supply Cost ("AESC") 2015 - Update of December 16, 2016 and provide independently

developed forecasts of energy supply costs and/or wholesale electricity and natural gas prices in New England. As part of the required services, the LEI undertook a review of the AESC and provided expert analysis of the AESC assumptions, methodology and results. LEI also advised the Commission and its staff with respect to the application of the AESC in the context of evaluating the cost effectiveness of energy efficiency measures. In addition, LEI provided independently developed energy supply costs and/or wholesale electricity and natural gas prices for the region that reflect current market conditions and outlooks. Barbara was responsible for the natural gas and other fuels price outlook review and performing natural gas forecast.

- ***Market and Economic Impact Consulting:*** LEI was retained by the Maine PUC to review and critique the analysis filed by Central Maine Power ("CMP") regarding the benefits to Maine resulting from the New England Clean Energy Connect ("NECEC"), which is a 1,200 MW HVDC Transmission Line from the Quebec-Maine border to Lewiston. The analysis includes work related to the regional energy markets, including the effect of the NECEC on a) wholesale energy, capacity, and ancillary service costs for Maine ratepayers b) impact on price volatility during natural gas price spike events; and c) greenhouse gas (GHG) reduction benefits. In addition, the analysis will also include work related to economic benefits to Maine from the NECEC including a) job creation, both direct and indirect; b) employment impacts from electricity price reductions and associated cost savings; c) economic development benefits and d) municipal tax revenues. Barbara was responsible for the natural gas price outlook review and performing natural gas forecast.
- ***Natural gas generation asset performance review:*** For an international client, LEI prepared a memo reviewing the performance of a generation asset in the NYISO wholesale markets. The memo included a review of the plant's competitive advantages and disadvantages from the point of view of its technology, operational characteristics, fuel procurement options, location with respect to transmission constraints. LEI's analysis also included a view on likely short and medium market conditions, together with potential market developments, that could affect the plant's revenues. Barbara was responsible for the fuels and plant performance sections of the report.
- ***Biomass power plants economics:*** LEI was retained to assess the financial viability of select biomass power plants in the next few years and confirm the plant's assertion that a discount on certain transmission costs was required in order to avoid plant closures. Barbara led the engagement, creating an estimated pro forma income statement to assess whether the select biomass plants are expecting to make positive (or negative) gross profit margin in the next few years, 2018-2021. The financial model presented a range of market revenues that the power plants can earn from the sale of energy, capacity, and RECs in ISO-NE's control area, relative to an estimate of going forward operating costs for two power plants. The model included five scenarios.
- ***Enbridge Line 5:*** For a non-governmental organization ("NGO") LEI examined the current and future role of Enbridge Line 5 on oil consumers and producers in the State of Michigan. LEI's analysis covered a) the extent to which refineries which serve Michigan consumers require Enbridge Line 5 to provide crude oil; b) the extent to which consumers of propane in Michigan's Upper Peninsula rely on Enbridge Line 5; and c) the extent to which producers of

crude oil in Michigan's Lower Peninsula rely on Enbridge Line 5. Barbara assisted with research tasks and coauthored the report.

- ***Cost of Utility-Scale Solar:*** For a large utility, LEI performed a detailed bottom-up analysis of the range of costs for building a utility-scale solar farm in a Canadian province. LEI researched potential costs for multiple solar module technologies, interconnection options, and land types. The cost analysis customized the hardware, labor, and other costs into the province's business landscape so as to create an accurate representation of the costs for building a solar generation resource. Barbara assisted on the research, composition of the cost model and final report.
- ***Econometric study of oil demand elasticities:*** LEI was engaged by the Columbia University School of International and Public Administration's Center on Global Energy Policy ("CGEP") to conduct econometric analysis of global oil (crude oil and key refined products) demand and its income and price drivers. Barbara conducted a portion of the econometric analysis using STATA and coauthored the report.
- ***IE for Idaho Power 2026 AS RFP:*** LEI was hired by Idaho Power Company to serve as an Independent Evaluator for its 2026 all-source energy (including storage) and capacity resources RFP ("2026 AS RFP"). The role of LEI as the IE was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly in congruence with the Oregon competitive bidding rules. LEI was tasked to carry out a thorough independent review, evaluation and scoring of all submitted bids (consistent with Oregon's competitive procurement guidelines), and compare findings to IPC's. Barbara was a key member of the team, where she coauthored all IE reports and managed the information-gathering and summarizing process, which involved information from over 100 bids, and multiple documents from each bidder.
- ***IE for PacifiCorp 2017S RFP:*** LEI was retained as an independent evaluator ("IE") by PacifiCorp for its system-wide 2017 Solar RFP. LEI reviewed PacifiCorp's Solar RFP, facilitated and monitored communications between PacifiCorp and bidders, performed a review of the initial shortlist evaluation and scoring, and filed status reports and the IE closing report. Barbara coauthored the status and IE report, and managed the information-gathering and summarizing process, which involved information from over 100 bids, and multiple documents from each bidder.
- ***White paper for debunking myths surrounding transmission investment:*** LEI was retained to provide a research paper highlighting the opportunity to evolve system planning practices to a more resilient transmission system in the longer term, one that promotes efficient electricity production and consumption decisions and efficient infrastructure investment. Barbara assisted on the research tasks.
- ***Investment Opportunities in the US and Canada:*** For a private equity client, LEI reviewed all investable energy sectors in the US and Canada (except oil and gas exploration and production). The sectors included: electricity generation (natural gas, wind, solar, hydro), AMI, distributed Resources, demand response, retail and gentailers, gas LDCs, gas storage, gas pipeline transportation, LNG-related infrastructure, vertically-integrated utilities, electric distribution, and water utilities. LEI assessed the investment potential of each sector for the

next five years and proposed a methodology to screen and identify investment opportunities and execute on these opportunities. Barbara was responsible for the electric generation sector and the Alaska regional study.

- ***Hydro Ancillary Services:*** For a private developer, LEI reviewed the eligibility of small (less than 25 MW) run-of-river hydroelectric electric generation facilities to provide ancillary services in the ISO-NE, MISO, NYISO, and PJM jurisdictions. Barbara assisted with research tasks.
- ***Total Factor Productivity study:*** LEI prepared a report for OPG entitled "Empirical Analysis of Total Factor Productivity Trends in the North American Hydroelectric Generation Industry." The purpose of this report was to share findings from LEI's total factor productivity ("TFP") study, which estimated TFP trends for a select group of peers from the North American hydroelectric generation industry. Data for this study covered an eleven-year period from 2002-2012. This study was further updated for newly available data (encompassing operating costs and other statistics for calendar years 2013 and 2014). LEI also supported OPG through 2017 in recommending an appropriate X factor and I factor to use in a I-X regime for hydroelectric generation. Barbara coauthored the report and assisted on information-gathering.
- ***Pacifico Chile-Peru interconnection assessment:*** In 2014, LEI assessed the impact of the construction of the 1000 MW Pacifico HVDC transmission interline between Southern Peru and Northern Chile. LEI also provided due diligence support and market analysis for the Peruvian and Chilean electricity markets to the team of investors backing the project. In 2016, the model was updated to the current market condition. Barbara assisted with research tasks.
- ***Transmission open solicitation:*** LEI was retained by a transmission developer to serve as Independent Examiner for a proposed merchant transmission project open solicitation process. The project entailed designing the solicitation process, meeting with potential shippers on the line to garner early interest, drafting announcements and press releases, conducting information sessions, updating the solicitation website, evaluating and ranking bids, assisting both bilateral negotiations with shippers, and submitting a report to FERC as part of the developers' Section 205 filing. Barbara coauthored the IE report and managed the information-gathering.
- ***ComEd congestion analysis:*** LEI was retained by a transmission utility to provide an overview of resources in the Chicago area and the Commonwealth Edison ("ComEd") zone and analyze the congestion of several nodes within the Chicago area and shorelines sites of Lake Michigan. Barbara assisted with research tasks.
- ***Brazilian electricity market credit crisis review:*** For a Canadian electricity transmission company, Barbara conducted theoretical and empirical analysis of the Brazilian Electricity Market Credit Crisis highlighting interesting lessons for the Alberta market. Topics explored include: credit/financing issues, system reliability, government interventions, power market risks, resources diversity.
- ***TransAlta Climate Change 2016:*** LEI was retained to provide ongoing research, analytical and advisory support to TransAlta as the Alberta government implements its climate change policy, which will shut down coal plants early, ramp up renewable generation, and put in

place a province wide carbon tax. Part of the engagement was to perform a case study-oriented comparative review of ancillary services in North America and abroad. Barbara was responsible for the Ireland case study.

- ***Alberta Market Modeling:*** LEI was retained by the Alberta Balancing Pool to provide wholesale energy price forecasts and market revenue projections over the period 2017-2020 for various generating facilities operating in the Alberta. LEI ran multiple sensitivities accounting for changes in ownership and dispatch rights, facility decommission and carbon policy changes. LEI relied on its proprietary dispatch simulation model, POOLMod applying Conjecture theoretical approach. Barbara assisted with research tasks.
- ***Assessment of solar thermal technologies:*** LEI was retained as part of a consortium to support an energy product manufacturing firm assess the market for solar thermal technologies, with a focus on an economic assessment of solar thermal technology, assessing the value contribution of the different components of the value chain creating a molten thermal solar plant. In addition, the client asked LEI to provide support to developing business strategies for this market. LEI's conducted the analysis in 3 out of 5 high priority markets - Saudi Arabia, Morocco, and Chile. More specifically we assessed the economics for solar thermal in each market, commented on the general perception of the technology and provided a comprehensive brief on the rules governing the market access. Barbara was responsible for the Chilean market.
- ***Workshop on Incentive-Based Ratemaking ("IBR"):*** LEI was retained by the largest electric utility company in Malaysia, to conduct a capacity building workshop on IBR and technical visits to utilities and regulators worldwide that are operating under IBR-like regimes. Barbara presented to TNB's traveling contingent on PBR Requirements standards across different jurisdictions and on fundamental of Tariff Design. Barbara presented to TNB's traveling contingent on PBR Requirements standards across different jurisdictions and on fundamental of Tariff Design.
- ***Analysis of buy versus build investment decision:*** LEI was engaged by a private equity company to provide a briefing paper that compares "The Opportunities of the Buy versus Build Investment Decision." The paper contains quantitative and qualitative research and analysis, based on market data on purchase prices from recent transactions (focused on New York, New England, and PJM), versus the cost of new build assets. Barbara assisted with research tasks.
- ***Overview of hydro-dominated market:*** LEI was hired by a financial investor to provide an understanding of the dynamics underpinning hydro-dominated power markets as opposed to thermal systems. As part of this project, LEI reviewed in detail the dynamics and key drivers of energy markets in a sample of Latin America countries including Colombia, Panama, Brazil and Chile. Colombia was the point of focus of the report, in this respect LEI compared and contrast several aspects of the Colombian markets to other jurisdictions and created a scoring card to evaluate Colombia against similar jurisdictions. Barbara assisted with research tasks and coauthored the report.
- ***Colombia market overview and revenue forecasts for target assets:*** LEI was hired by an electric operator for the purposes of valuing a portfolio of generating assets in Colombia. LEI's

scope of work consists of a comprehensive review of the Colombia energy market (including fuel and power market drivers), describe in detail the functioning of both wholesale power market and firm energy market (capacity market), develop forecasts of spot prices in order to derive expected revenues for the portfolio. Colombia being a hydro dominated system, as part of its modeling exercise, LEI ran a Monte Carlo simulation to develop a series of probabilities associated with generation profiles of Colombia's hydro resources to reflect the impact of weather conditions and water inflows on hydropower plants' output. LEI summarized its research and modeling results in a final report that was presented to lenders and other interested parties. LEI was hired later to update the market fundamentals and energy prices outlook in order to evaluate the impact of evolving market conditions on a portfolio of assets acquired by the client. Barbara created the fuels forecast, assisted with research tasks for the modeling activities, and coauthored the report.

- ***Transmission project workshop:*** LEI was retained by a private client to conduct a mini-workshop to discuss the market opportunities and risks on five proposed transmission projects in the US and Mexico. Barbara was involved in the analysis of the Mexican projects.

## Curriculum Vitae

# Sandy (Xinyi) Chen

*Consultant, London Economics International LLC*

LONDON ECONOMICS

**KEY QUALIFICATIONS**:

Sandy is a Consultant at London Economics International LLC ("LEI"). She has applied her analytical and research skills to a variety of projects, ranging from market analysis, regulatory and ratemaking reviews, and quantitative modeling. Sandy has also been regularly involved in the Ontario Energy Board engagements and Idaho Power Company's resource procurement process.

Sandy holds a Master of Science in Management, from the Ivey Business School, University of Western Ontario, and a Bachelor of Mathematics/Business Administration from the University of Waterloo. Prior to joining LEI, Sandy had worked as a capital markets analyst and an analytics strategy consultant for financial institutions.

Sandy is fluent in English and Mandarin.

**EDUCATION:**

University of Western Ontario, Ivey Business School, London, Ontario, Canada, Master of Science in Management, Business Analytics, 2023.

University of Waterloo, Waterloo, Ontario, Canada, Bachelor of Mathematics/Business Administration, 2022.

**EMPLOYMENT RECORD:**

**From:** January 2025 **To:** present
**Employer:** *London Economics International LLC, Toronto, ON*
Consultant

**From:** February 2024 **To:** December 2024
**Employer:** *London Economics International LLC, Toronto, ON*
Research Associate

**From:** January 2021 **To:** April 2021
**Employer:** *Jones Lang LaSalle, Toronto, ON*
Capital Markets Analyst



contact:
Sandy Chen
647-968-0391
sandy@londoneconomics.com

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|---|---|
| **From:** May 2020 | **To:** August 2020 |
| **Employer:** | *OMERS, Toronto, ON* |
| | Capital Markets Analyst, Portfolio Analytics |
| **From:** September 2019 | **To:** December 2019 |
| **Employer:** | *Canadian Imperial Bank of Commerce, Toronto, ON* |
| | Analytics Strategy Consultant |

**SAMPLE PROJECT EXPERIENCE:**

The projects briefly described below are typical of the work Sandy has performed throughout her career at LEI.

- ***Presented various performance metrics used by electric utilities in the US:*** LEI has been engaged by an electric distribution company in New England to provide a presentation on the various performance metrics used by other electric utilities in the US. In addition, LEI will look into customer surveys on performance-based ratemaking ("PBR") as well as other jurisdictions that impose financial penalties to utilities for slow response to services.

- ***Prepared quarterly reports on the cost of capital for the OEB:*** LEI was retained by the Ontario Energy Board ("OEB") to provide updates on the macroeconomic conditions of the utility sector in Ontario. As part of its advice, LEI provided an annual presentation to the OEB and senior management to discuss key issues driving changes in the utility sector. LEI provided recommendations on whether the cost of capital policy and/or methodologies for calculating and updating the parameters may warrant review due to structural changes in the sector. LEI was also asked to provide, on a case-by-case basis, analysis on where changes going forward to the approved capital structures may warrant consideration based on expected changes in risk for wires, generation and natural gas distributors in Ontario. LEI also provided variance analysis/trend analysis of cost of capital parameters, including the Return on Equity and deemed long-term and short-term debt rates based on movements of relevant economic indicators. These were presented in a quarterly report that included a number of these elements and were presented to OEB staff.

- ***Assisted in Idaho Power Company's 2026 capacity resources RFP:*** LEI was hired by Idaho Power Company to serve as an Independent Evaluator for its 2026 all-source energy (including storage) and capacity resources RFP ("2026 AS RFP"). The 2026 AS RFP was being issued to facilitate the sourcing of competitively priced resources capable of being commercially operational no later than June 1, 2026. The resources were needed to ensure IPC could address the needs identified in its latest Integrated Resource Plan (filed on December 30, 2021). The role of LEI as the IE was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly in congruence with the Oregon competitive bidding rules. LEI was to ensure there was no bias in the procurement process, in particular a "self-build" bias that unjustly favors utility-owned resources. Moreover, in addition to serving as an overseer of the procurement process, LEI was tasked to carry out a thorough

independent review, evaluation and scoring of all submitted bids (consistent with Oregon's competitive procurement guidelines), and compare findings to IPC's.

- ***Assisted in Idaho Power Company's 2028 capacity resources RFP:*** LEI was hired by Idaho Power Company to serve as an Independent Evaluator for its 2028 all-source energy (including storage) and capacity resources RFP ("2028 AS RFP"). The 2028 AS RFP was being issued to facilitate the sourcing of competitively priced resources capable of being commercially operational no later than June 1, 2028. The resources were needed to ensure IPC could address the needs identified in its latest Integrated Resource Plan (2023 IRP). The role of LEI as the IE was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly in congruence with the Oregon bidding rules. LEI was to ensure there was no bias in the procurement process, in particular a "self-build" bias that unjustly favors utility-owned resources. Moreover, LEI was tasked to develop a thorough evaluation process reflecting the procurement guidelines and apply it consistently to all resource bids received. Finally, LEI was requested to assist with OPUC with the monitoring of contract negotiations (all contracts associated with the winning bids). LEI's role consisted of documenting progress on key contract terms, reporting on unexpected challenges and issues, and providing a detailed review of the process leading to contract agreement (or the termination of negotiations)

- ***Reviewed the potential for relocating a combined cycle plant:*** On behalf of a large utility in North America, LEI reviewed the potential for relocating a combined cycle plant before the end of the equipment's service life. LEI notably assessed the current environment and future market conditions for the operation of gas-fired assets in North America. LEI also reviewed the market for, and potential value of, used equipment that would be taken from the retiring plant.

- ***Prepared the Ontario case study on network tariff reforms:*** LEI supported Frontier Economics in preparing international case studies for the New Zealand Electricity Authority on network tariff reforms. LEI focused on two North American jurisdictions - Ontario and Texas.

- ***Assistance in the development of a joint water and wastewater municipal services corporation:*** LEI was engaged by an Ontario client to develop a detailed business case supported by financial modelling to evaluate the financial and practical feasibility of the client offering a joint water and wastewater municipal services corporation based on a specific group of no more than ten municipalities initially, with the ability for additional municipalities to join over time. The financial modelling also included performing water and wastewater rate studies for each of the participating municipalities.

- ***Advisory on Generic Proceeding:*** LEI was engaged by the OEB to assist the OEB staff in finalizing the issues list in the Generic Proceeding on cost of capital and other matters related to OEB's prescribed interest rates and cloud computing deferral account (EB-2024-0063), preparing an expert report answering the questions identified in the issues list, and providing proceeding related support to the OEB staff.

- ***Review of IESO Market Rule Amendments:*** LEI was engaged by OEB staff for assistance related to an application was filed with the OEB to review certain IESO Market Rule Amendments pursuant to section 33 of the Electricity Act, 1998 (Act) (NQS Generation Group Application OEB File No. EB-2024-0331). LEI's scope included: (i) review of evidence filed by Applicant (NQS), the IESO and intervenors and assist staff in developing lines of questioning for the Applicant and the IESO for the Technical Conference within the scope of the proceeding and the issues list; (ii) assisting OEB staff in preparation for the oral hearing, including developing further lines of questioning; and (iii) assisting OEB staff in identifying key questions of the Application and providing relevant technical advice and analysis for drafting the submission after the oral hearing (as needed).

- ***Review of the Transmission System Code:*** LEI was engaged by OEB staff for assistance related to review of the Transmission System Code (TSC) to review and update the transmission-connecting customer financial risk classification methodology set out in Appendix 4 of the TSC which is outdated and must be updated to reflect the current risk assessment methodologies and practices that can be fairly and consistently implemented by Ontario's transmitters.

## Curriculum Vitae

# Jun-Soo Park

***Consultant, London Economics International LLC***

LONDON ECONOMICS

**KEY QUALIFICATIONS**:

Jun-Soo serves as a Consultant at London Economics International LLC ("LEI"), where he has been employed since July 2023. In his role, Jun-Soo takes on the primary responsibilities of modeling for the Midcontinent Independent System Operator ("MISO") market, engaging in various projects that encompass both qualitative and quantitative research.

Jun-Soo's academic background includes a Bachelor's degree in Economics, Politics, and International Studies from the University of Warwick, and a Master's degree in Energy and Quantitative Analysis from Columbia University. His professional journey before LEI spanned international organizations, consultancy, and finance, equipping him with diverse experience across different sectors.

**EDUCATION:**

Columbia University School of International and Public Affairs (New York, the U.S.): MPA in Energy and Quantitative Analysis

The University of Warwick (Coventry, the UK): BA in Economics, Politics and International Studies

**EMPLOYMENT RECORD:**

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| **From:** July 2023 | **To:** Present |
| **Employer:** | *London Economics International LLC*<br>Consultant (March 2024 – Present), Research Associate (July 2023 – March 2024) |
| **From:** January 2023 | **To:** May 2023 |
| **Employer:** | *Sustainable Stock Exchanges Initiative*<br>Graduate Consultant |
| **From:** January 2023 | **To:** May 2023 |
| **Employer:** | *United Nations Department of Economics and Social Affairs*<br>Graduate Consultant |
| **From:** January 2020 | **To:** July 2020 |
| **Employer:** | *United Nations Project Office on Governance*<br>Intern |

**From:** September 2019 **To:** September 2019
**Employer:** *Roland Berger*
Research Assistant

**From:** July 2018 **To:** September 2018
**Employer:** *Billionfold Asset Management*
Summer Associate

**RECENT PROJECT EXPERIENCE:**

- ***Expert Testimony on ComEd's Refiled Grid Plan:*** LEI was retained by Constellation Energy Corporation to provide a range of expert services in connection with a regulatory case. LEI's work included a comprehensive assessment of proposals submitted by ComEd and other parties involved in the case, as well as the preparation of data requests on behalf of Constellation. LEI also reviewed and analyzed data requests and responses from other parties. In support of Constellation's position, LEI prepared multiple rounds of written expert testimony for filing and actively participated in the evidentiary hearing, providing live testimony and undergoing cross-examination as necessary. Additionally, LEI consulted with Constellation and its legal counsel on case strategy and analysis. LEI provided other expert witness services as requested by Constellation's legal team.

- ***Review of Current Iowa Code Provisions and Ratemaking procedures:*** LEI was commissioned by the Iowa Utilities Board to conduct a comprehensive review of the current Iowa Code provisions and ratemaking procedures. The primary objective was to recommend necessary changes to Iowa Law and Administrative Rules. To ensure a well-rounded assessment, LEI facilitated three policy charrettes, during which valuable input and recommendations were gathered from various stakeholders. These stakeholders included the Office of Consumer Advocate, a Division of the Iowa Department of Justice, Iowa rate-regulated utilities, and other interested parties. The charrettes were focused on the following essential topics: (i) Evaluating the adequacy and efficiency of Iowa's current rate-making law, procedures, and administrative rules, particularly concerning advance rate making, in promoting the Policy Objectives. (ii) Identifying, explaining, and evaluating rate-making laws and procedures from other states, especially those within the MISO and SPP regions or dealing with performance-based regulations. (iii) Identifying, explaining, and evaluating potential changes in law, procedures, or administrative rules that could better advance the Policy Objective, both presently and in anticipation of future industry conditions. The final output from this comprehensive effort was a written report, which was submitted to the Iowa legislature. Jun-Soo contributed to the project by attending Charrettes, monitoring dockets filed with the IUB, and drafting analytical reports based on quantitative data collected from electric, gas and water utility providers within Iowa. Additionally, Jun-Soo assisted in

reviewing Iowa's existing ratemaking procedures and administrative laws for the development of policy recommendations.

- ***Establishment of the Hawaii Electricity Reliability Administrator ("HERA"):*** London Economics International ("LEI") was engaged with Grid Advisors ("GA") to serve as the Electric Reliability Administrator in Hawaii. LEI and GA were contracted to complete the following: develop reliability standards, oversee a new interconnection process and provide on-the-job training to the reliability administrator Engineer. Workstreams included development of reliability standards and metrics, stakeholder engagement, development of a roadmap for establishing the administrator, a final report on reliability standards, trainings and interconnection implementation.

- ***Tipmont stranded cost assessment:*** LEI was retained by Tipmont REMC ("Tipmont") to calculate the potential stranded cost for Wabash Valley Power ("WVP") as a result of the departure of Tipmont's load. Stranded costs represent costs which a utility (in this case, WVP) would have recovered through regulated rates, but the recovery of which may be now be impeded because of regulatory changes or other circumstances. In recent years, termination of long term arrangements between the utility and a customer have created stranded cost issues. Tipmont is seeking to terminate its arrangement with WVP and has explored wholesale power supply alternatives, for example, purchasing power from the Midcontinent Independent System Operator ("MISO") wholesale electricity market. WVP has demanded a substantial and unrealistic exit fee on the assertion of material stranded costs. LEI performed an independent stranded cost analysis based on the methodology adopted by FERC in Order 888 and further refined in subsequent dockets. For the data used in the calculation of stranded cost, LEI relied on data provided by Tipmont, LEI proprietary analyses, and publicly available information. Jun-Soo provided support by compiling and analyzing data on energy and capacity prices within MISO to provide quantitative evidence for the calculation of exit fee.

- ***Tipmont load forecast for ARR/FTR:*** LEI was retained by a co-operative electric utility to independently perform seasonal forecasts of non-coincident peak ("NCP") and coincident peak ("CP") demand for the subsequent Planning Year. The resulting load forecast was used to underpin the utility's selection and bidding strategy in MISO's Auction Revenue Rights/Financial Transmission Rights, and capacity markets.

- ***Financial strategies for early termination of wholesale power supply agreement:*** LEI was hired by a Midwest cooperative to provide technical assistance throughout the client's decision-making process to design, prepare, and execute its plan to become a full market participant in the Midcontinent ISO ("MISO"). LEI was retained to assess the benefits and costs associated with the change under a host of scenarios, provide step-by-step guidance on an implementation plan, and provide some thoughts on the timing of key milestones. As part of this process, LEI also supported the coop throughout its settlement process with the existing intermediary in MISO; this consisted of reviewing the proposed settlement agreement, modeling final settlement terms and ensuring consistency with the original

settlement agreement, and engaging with MISO and other parties relevant to the transition process. Donald prepared the financial models detailing the potential future costs for the coop once it exited from the intermediary agreement, as well as the terms of the exit agreement and their financial impact for the coop.

- ***Idaho Power – IE for 2028 AS RFP:*** LEI was hired by Idaho Power Company to serve as an Independent Evaluator for its 2028 all-source energy (including storage) and capacity resources RFP ("2028 AS RFP"). The 2028 AS RFP was being issued to facilitate the sourcing of competitively priced resources capable of being commercially operational no later than June 1, 2028. The resources were needed to ensure IPC could address the needs identified in its latest Integrated Resource Plan (2023 IRP). The role of LEI as the IE was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly in congruence with the Oregon bidding rules. LEI was to ensure there was no bias in the procurement process, in particular a "self-build" bias that unjustly favors utility-owned resources. Moreover, LEI was tasked to develop a thorough evaluation process reflecting the procurement guidelines and apply it consistently to all resource bids received. Finally, LEI was requested to assist with OPUC with the monitoring of contract negotiations (all contracts associated with the winning bids). LEI's role consisted of documenting progress on key contract terms, reporting on unexpected challenges and issues, and providing a detailed review of the process leading to contract agreement (or the termination of negotiations)

- ***Idaho Power – IE for 2026 AS RFP:*** LEI was hired by Idaho Power Company to serve as an Independent Evaluator for its 2026 all-source energy (including storage) and capacity resources RFP ("2026 AS RFP"). The 2026 AS RFP was being issued to facilitate the sourcing of competitively priced resources capable of being commercially operational no later than June 1, 2026. The resources were needed to ensure IPC could address the needs identified in its latest Integrated Resource Plan (filed on December 30, 2021). The role of LEI as the IE was to oversee the competitive bidding to ensure that it was conducted fairly, transparently, and properly in congruence with the Oregon competitive bidding rules. LEI was to ensure there was no bias in the procurement process, in particular a "self-build" bias that unjustly favors utility-owned resources. Moreover, in addition to serving as an overseer of the procurement process, LEI was tasked to carry out a thorough independent review, evaluation and scoring of all submitted bids (consistent with Oregon's competitive procurement guidelines), and compare findings to IPC's. Jun-Soo supported the team in assessing non-financial bids with the aim of selecting the most suitable developer based on predefined criteria.

- ***Development and Support for Performance-Based Distribution Ratemaking Plan:*** LEI was retained to support Yankee Gas Services Company d/b/a Eversource Energy of Connecticut in developing a first-generation performance-based ratemaking ("PBR") plan for its gas distribution business. As part of its scope of work, LEI was tasked with conducting both TFP (peer groups consisting of national and Northeast states) and econometric benchmarking studies, filed as part of the utility's rate case application in Q4 2024. The results of the empirically-based TFP and benchmarking studies informed LEI's proposed design for the

utility's PBR plan (i.e., components of the PBR design, including revenue adjustment mechanism and incremental capital funding mechanism). In addition to these quantitative workstreams, LEI also methodically reviewed filings submitted as part of the ongoing electric distribution PBR reopener proceedings in the state of Connecticut, as well as the gas and electric distribution PBR frameworks as designed in New England states operating under PBR - both of which helped to inform PBR design recommendations (and justifications thereof) developed by LEI as part of this engagement. LEI will defend the methodology it used in its quantitative studies and in developing PBR design elements in testimony, hearings, briefs, and other regulatory technical sessions.

- ***Frontier – retail market Texas and NY:*** LEI was retained to carry out a review of the evolution and the competitive nature of the electric retail markets in New York and Texas. The goal of the exercise was to draw lessons learned from the case studies, identify innovative regulatory features and market practices, and explore its relevance for potential adoption in the UK market. Jun-Soo conducted market research on electric retail markets in both New York and Texas, based on which the drafts for the final products were created.