April 2, 2026

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Re: RFP 26-02 JDEC, DEMCO, SLEMCO, and 1803 IRPs (Consultant).

RFP 26-02 – Docket No. I-37858, Jefferson Davis Electric Cooperative, Inc., ex parte. In re: Request to initiate 2026 Integrated Resource Planning process pursuant to General Order (Corrected) dated August 24, 2024 (R-36262).
Docket No. I-37860, Dixie Electric Membership Corporation, ex parte. In re: Request to initiate 2026 Integrated Resource Planning process pursuant to General Order (Corrected) dated August 24, 2024 (R-36262).
Docket No. I-37864, Southwest Louisiana Electric Membership Corporation, ex parte. In re: Request to initiate 2026 Integrated Resource Planning process pursuant to General Order (Corrected) dated August 24, 2024 (R-36262).
Docket No. I-TBD, 1803 Electric Cooperative, ex parte. In re: Request to initiate 2026 Integrated Resource Planning process pursuant to General Order (Corrected) dated August 24, 2024 (R-36262).

Dear Ms. O'Brian:

Please find attached London Economics International LLC ("LEI")'s proposal to act as an outside independent technical consultant and assist the Louisiana Public Service Commission ("LPSC") with the IRP processes of Jefferson Davis Electric Cooperative, Dixie Electric Membership Corporation, Southwest Louisiana Electric Membership Corporation, and 1803 Electric Cooperative. LEI offers a total indicative budget of $205,792 for the four IRP Dockets ($51,448 for each IRP Docket), which includes professional fees and estimated travel and other direct costs, detailed further in Section 4.

LEI is uniquely qualified for this role, having performed similar IRP services for LPSC on other dockets, including numbers I-36175 (CLECO), I-36181 (Entergy Louisiana), and I-36242 (SWEPCO) in 2021. LEI also has extensive knowledge of ratemaking outside these dockets and familiarity with the Midcontinent Independent System Operator ("MISO") region, having performed a broad range of other technical consulting services related to regulatory oversight to LPSC and several other regulatory bodies.

There are no actual or potential conflicts of interest for LEI in performing the contractual obligations contemplated in this RFP. LEI is not currently working for a utility and/or investor in utilities operating in Louisiana, or any of their subsidiaries. To our knowledge, we are not advising, nor have a financial interest in, any potential bidders in a future competitive procurement for major resources in Louisiana.

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,

Barbara Porto
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Proposal responding to RFP 26-02 to assist the Louisiana Public Service Commission with forthcoming IRP Process

prepared for the Louisiana Public Service Commission by London Economics International LLC

April 2, 2026

London Economics International LLC ("LEI") is pleased to submit this proposal to the Louisiana Public Service Commission ("LPSC" or "the Commission") to serve as the outside independent technical consultant in the process related to the Integrated Resource Planning of Jefferson Davis Electric Cooperative, Dixie Electric Membership Corporation, Southwest Louisiana Electric Membership Corporation, and 1803 Electric Cooperative.

LEI is a leading energy consulting firm that has advised regulators and utilities on tariffs and ratemaking. The firm possesses over 20 years of experience advising regulators, electric and natural gas utilities, private firms, and specific customer classes across the United States and Canada as well as among international jurisdictions. LEI has worked with a variety of regulators including the LPSC and has experience testifying on behalf of public agencies on ratemaking matters.

Table of contents

1 BIDDER INFORMATION 4

1.1 BACKGROUND AND STAFFING 5
1.2 BRIEF BIOS OF KEY STAFF ASSIGNED TO THE PROJECT 6

2 QUALIFICATIONS AND EXPERIENCE 8

2.1 UNDERSTANDING OF THE ENGAGEMENT 8
2.1.1 Familiarity with LPSC General Orders and minimum RFP requirements 8
2.2 SELECTED EXPERIENCE 11
2.2.1 Regulated utility issues: integrated resource planning, revenue requirements, cost of service, cost of capital analysis, tariff design 12
2.2.2 Utility management and prudency audits 16
2.2.3 MISO region experience 17
2.2.4 Expert witness experience 18

3 PROPOSED PLAN OF ACTION 21

3.1 TASK DESCRIPTION 21
3.1.1 Task 1: Review and examine filing and pre-filed direct testimony 21
3.1.2 Task 2: Assist in drafting, reviewing, and responding to discovery 22
3.1.3 Task 3: Assist in preparing direct and cross-answering testimony 22
*3.1.4 Task 4: Aid in drafting pleading and motions ..... **Error! Bookmark not defined.***
3.1.5 Task 5: Appear at hearings, open meetings, and participate in depositions if needed 22
3.1.6 Task 6: Assist with trial preparations and cross examination of witnesses 23
3.1.7 Task 7: Testify before an administrative law judge 23
3.1.8 Task 8: Participate in/conduct informal meetings with parties and commissioners 23

4 TIMELINE AND BUDGET 24

4.1 TIMELINE 24

4.2 PROFESSIONAL FEE BUDGET (NOT-TO-EXCEED) 24
4.3 EXPENSE BUDGET 24
4.4 TOTAL BUDGET 25

5 CONFLICT OF INTEREST 26

6 RESUMES OF KEY STAFF ASSIGNED TO THE PROJECT 27

6.1 SAYAD MOUDACHIROU 28
6.2 BARBARA PORTO 44
6.3 SANDY (XINYI) CHEN 54

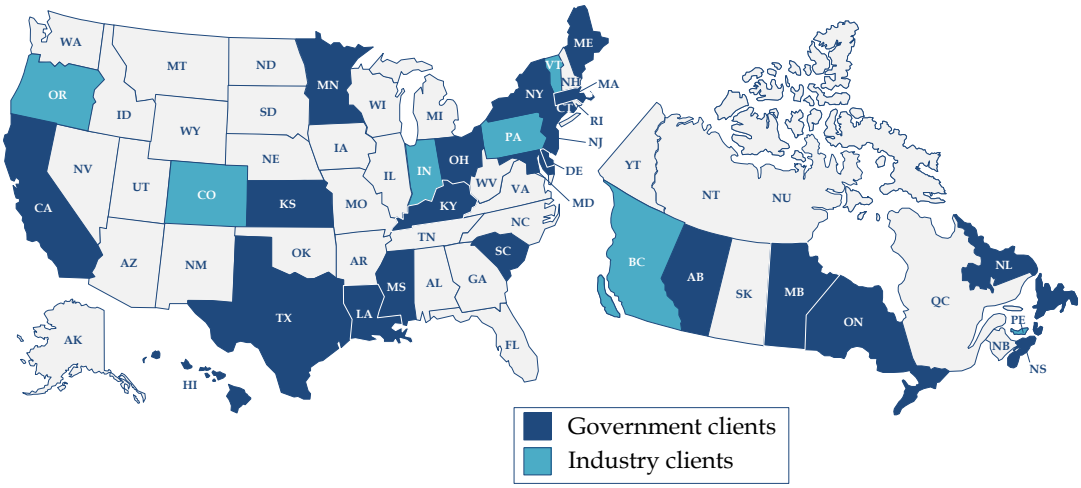
Table of figures

FIGURE 1. SELECTED LEI CLIENTS THROUGHOUT THE WORLD 4
FIGURE 2. PROPOSED LEI TEAM ORGANIZATION CHART 6
FIGURE 3. MAJOR TASKS 21
FIGURE 4. PROFESSIONAL FEE BUDGET PER IRP DOCKET 24
FIGURE 5. LEI'S PROFESSIONAL FEE RATES 24
FIGURE 6. INDICATIVE TRAVEL COSTS PER IRP DOCKET 25

1 Bidder information

London Economics International LLC ("LEI") is a US-owned and operated 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, transmission and distribution, and retail markets with sophisticated analysis and a suite of proprietary quantitative models that together produce reliable and comprehensible results. LEI's array of clients extends from the private sector to regulators and government institutions. Across North America specifically, LEI has advised regulatory and policy bodies in nearly 25 states and provinces, and worked for industry clients in a further seven states and provinces in engagements involving testifying before or facing government entities (see Figure 1).

Figure 1. Selected LEI North American regulatory and policy engagements



The following attributes make LEI unique:

- ***clear, readable deliverables that are*** grounded in substantial topical and quantitative evidence;
- ***internally developed proprietary models*** for electricity price forecasting (energy, capacity, RECs, GHGs credits, etc.) that incorporate a detailed assessment of fundamentals, game theory, real options valuation, Monte Carlo simulation, and sophisticated statistical techniques;
- ***a balance of private and public sector clients*** enables LEI to effectively advise both regarding the impact of regulatory initiatives on private investment and the extent of possible regulatory responses to individual firm actions;
- ***wealth of knowledge of energy and infrastructure regulation*** worldwide enables LEI to provide expert testimony services on regulatory best practices and innovation; and
- ***significant experience supporting regulatory proceedings on IRPs***, as well as related experience serving as an independent procurement coordinator and regulatory process auditor.

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 are briefly described in Figure 2, and 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. LEI's areas of expertise

Asset Valuation, Price Forecasting & Market Analysis

- Exhaustive sector knowledge and a suite of state-of-the-art proprietary quantitative modeling tools
  - Wholesale electricity market models
  - Valuation and economic appraisal
  - Due diligence support
  - Cost of capital database
  - Contract configuration matrices

Regulatory Economics, Performance-based Ratemaking & Market Design

- Market design, market power and strategic behavior advisory services
  - Electricity
  - Natural Gas
  - Water
- Incentive ratemaking
  - Quantify current and achievable efficiency levels for regulated industries
  - Convert findings into efficiency targets mutually acceptable to utilities and regulators

Expert Testimony & Litigation Consulting

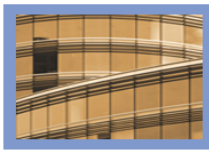
- Reliable testimony backed by strong empirical evidence
- Expert witness service
  - Material adverse change
  - Materiality
  - Market power
  - Contract frustration
  - Cost of capital
  - Tax valuations

Transmission

- Creating detailed market simulations to identify beneficiaries and quantify costs and benefits from proposed transmission lines
  - Valuing transmission
  - Transmission tariff design
  - Procurement process and contract design

Renewable Energy

- Renewable energy policy design, procurement, modeling, and asset valuation
  - Solar, wind, biomass, and small hydro
  - Demand response
  - Energy efficiency
  - Emissions credits trading
  - Energy storage technologies
  - Cogeneration
  - Micro-grids



Procurement

- Designing, administering, monitoring, and evaluating competitive procurement processes
  - Auction theory and design
  - Process management
  - Document drafting and stakeholder management

1.1 Background and staffing

LEI is extremely well-qualified to serve as a technical consultant to the LPSC. As described in detail in Section 2, LEI has significant experience supporting regulatory proceedings on IRPs, as well as related experience serving as an independent procurement coordinator. LEI has previously served as an independent consultant and expert for the LPSC's RFP 21-25 for Entergy Louisiana [Docket No. I-36181], Cleco Power [Docket No. I-36175], and SWEPCO [Docket No. I-36242], as well as several other engagements. LEI understands the regional power market in the Midcontinent Independent System Operator ("MISO") region, producing semi-annual market outlooks based on LEI's detailed production simulation model of MISO. LEI understands the perspective and objectives of state regulators, having worked with many regulators. The firm has experience testifying on a variety of issues related to rate design, competitive markets, and long-term planning.

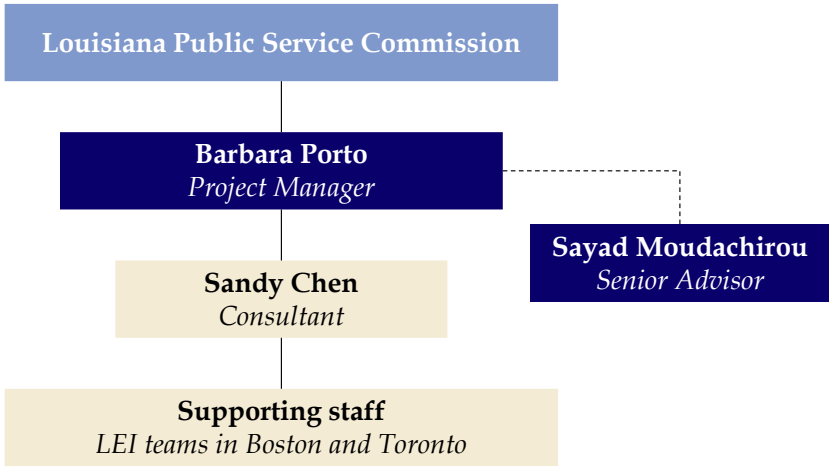
Based on the requirements of the engagement, LEI has gathered a select team of professionals with the required qualifications to assist the LPSC. The team possesses considerable independent assessment expertise, analytical and technical capabilities, and strong understanding of power markets, including MISO.

There will be three key personnel assigned to this project. Additional staff members and resources will be available on an as-needed basis. Key staff members assigned are as follows:

- ***Sayad Moudachirou,*** *Chief Economist*
- ***Barbara Porto***, *Senior Consultant*
- ***Sandy Chen***, *Consultant*

Barbara Porto will have overall responsibility for the project and will act as project manager. ***Sayad Moudachirou*** will serve as senior advisor and testifying expert**.** ***Sandy Chen*** will serve as a core team member. In addition, LEI staff in Boston and Toronto will provide additional support as needed.

Figure 32. Proposed LEI team organization chart



1.2 Brief bios of key staff assigned to the project

Sayad Moudachirou, Director at LEI, will serve as a **senior advisor** for this engagement, and **expert witness**. With almost 20 years of experience in research and consulting for the energy sector, Sayad's career has spanned Integrated Resource Planning and procurements, infrastructure planning, and wholesale power market operations. 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.

Barbara Porto, Senior Consultant at LEI, will serve as the **project manager** for this engagement. She supports LEI's technical engagements with regulators, utilities, and private equity firms on

issues regarding market design, project evaluation, wholesale price analysis, utility management/performance auditing, and regulatory engagements. Barbara manages many of LEI's audit engagements and has worked on many LEI projects for the LPSC.

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.

2 Qualifications and experience

This section outlines LEI's understanding of the engagement and selected relevant experience.

2.1 Understanding of the engagement

LEI understands that Jefferson Davis Electric Cooperative ("JDEC"), Dixie Electric Membership Corporation ("DEMCO"), Southwest Louisiana Electric Membership Corporation ("SLEMCO"), and 1803 Electric Cooperative ("1803") are filing requests to initiate their 2026 IRP processes. Specifically, the following dockets were opened:

- **JDEC:** LPSC Docket I-37858. Notice of this proceeding was published in the LPSC's Official Bulletin Number 1371, dated March 13, 2026.
- **DEMCO:** LPSC Docket I-37860. Notice of this proceeding was published in the LPSC's Official Bulletin Number 1371, dated March 13, 2026.
- **SLEMCO:** LPSC Docket I-37864. Notice of this proceeding was published in the LPSC's Official Bulletin Number 1371, dated March 13, 2026.
- **1803:** Expected to file its correspondence to initiate its 2026 IRP process within the next few months.

The services of an outside independent technical consultant are sought to provide the Staff of the Commission with advice and counsel during the course of 24 months of each IRP process.

The scope of representation as described in the RFP must include, but is not limited to:

- assisting the Staff in holding technical conferences;
- assisting the Staff in drafting comments;
- assisting in drafting, reviewing, and responding to discovery;
- assisting in preparing direct and cross-answering testimony (if necessary);
- reviewing and analyzing stipulation terms;
- testifying before an administrative law judge; and
- participating in/conducting informal meetings with parties and the Commission Staff as necessary.

2.1.1 Familiarity with LPSC General Orders and minimum RFP requirements

LEI has working knowledge of LPSC's general orders and is familiar with all the minimum requirements listed in the RFP:

1) The Commission's IRP Rules - General Order (Corrected) dated August 28, 2024 (Docket No. R-36262) regarding electric utilities filing Integrated Resource Plans.

This General Order amends and supersedes the previous 2012 rules (Docket No. R-30021) to establish a unified planning process for electric utilities operating in Louisiana, explicitly removing the prior exemption for electric cooperatives. The rules are designed to establish the process to develop long-term resource plans to meet load requirements, including both supply and demand resources, while now explicitly mandating the consideration of transmission needs.

These rules are intended to be flexible enough to allow utilities to develop plans that meet their specific needs and circumstances, while also being consistent with the Commission's Market Based Mechanism Order and the 1983 General Order.

2) The Commission's Rules and Orders pertaining to the IRP process as it relates to the acquisition of power supply resources, including, but not limited to, the Commission's Market Based Mechanisms Order and its 1983 General Order.

The Commission's Market Based Mechanism Order (approved in 2002, subsequently amended a number of times), requires jurisdictional utilities to employ market-based mechanisms to support the acquisition (or purchase power agreements) of generation assets to serve Louisiana retail load. The results and analysis used to implement such mechanisms form the part of the justification as required under the 1983 General Order.

The Commission's General Order dated September 30, 1983 ("1983 Order"), as amended by the Commission's Order No. R-30517, dated October 29, 2008, establishes the procedures and requirements to issue the certificate of public convenience and necessity for construction of generating assets by jurisdictional utilities or other long-term resource procurements.

3) Policies related to Energy Efficiency and Distributed Generation and their applicability to resource planning.

The Commission's General Order of August 28, 2025 (Docket R-31106) formally concluded the Quick Start phase and adopted the Louisiana Energy Efficiency Program ("LEEP") Rules for jurisdictional electric and gas utilities. These permanent rules mandate the implementation of comprehensive energy efficiency programs starting January 1, 2026, establishing a budget cap of 1% of annual revenues, strict industrial opt-out criteria (5 MW aggregate demand), and a Lost Contribution to Fixed Costs ("LCFC") recovery mechanism.

Regarding load management, the Commission established the regulatory framework through General Order R-35136 (May 26, 2021), approving the Demand Response Rules. Utilities are currently operationalizing these rules through active pilots and procurements, such as SWEPCO's Supplemental Reserve Demand Response Pilot (effective January 2025) and ELL's 2025 Request for Proposals for a demand response portfolio.

The Commission's General Order (corrected) of Sep 19, 2019 (Docket R-33929) approved the Distributed Generation Rule, establishing the eligibility requirements, cost recovery mechanism, and mandates the utilities to provide open, fair and non-discriminatory access to eligible distributed generation resources.

4) Policies related to Transmission and their applicability to resource planning.

The resource planning criteria specifies system level optimization of all resources, including supply, demand and transmission options. The IRP must include the utility's current transmission plan, and meet the reliability criteria of the Regional Transmission Organization.

5) Principles associated with resource acquisition, including but not limited to whether or not a particular resource meets the utility's need for power and whether the considered resources are able to meet those needs.

The primary principles of acquiring resources are laid in the 1983 General Order - justification required for the certificate of public convenience and necessity, which has to be satisfied with the analysis utilized for market-based mechanism (2002 Market Based Mechanism Order).

6) Whether or not resource will provide reliable services at the lowest reasonable cost.

The Commission's IRP Rules - General Order (Corrected) dated August 28, 2024 (Docket No. R-36262) specify the following conditions:

- ***Section 6 Part A: System Reliability Assessment.*** The first step in the IRP analysis focuses on reliability. Under the new rules, the utility shall determine the reliability of its system, which may now be based on the rules and requirements of the Regional Transmission Organization (e.g., MISO) that the utility is part of, or based on a standalone system reliability assessment (typically using the one day in 10 years Loss of Load Probability criterion;
- ***Section 6 Part F: Optimization Analysis.*** Optimization analysis requires selecting resources that minimize costs while meeting all operating constraints, which explicitly includes reliability and the accounting of transmission needs.

7) Resource planning methods to improve the efficiency and reliability of a utility's power supply operations and whether the utility is making use of any such methods.

There are two aspects to improving the efficiency and reliability of the power supply operations: (i) improve and/or maintain the efficiency and reliability of the existing fleet, and (ii) add new generating that is more efficient and more reliable, either to meet the growing demand and/or replace the less efficient and less reliable capacity.

The operations of the existing fleet are monitored and reported as performance, reliability and efficiency parameters. The most commonly used report is the data provided to Generation Availability Data System of the North American Electric Reliability Corporation (NERC's GADS). These data provide a valuable tool in benchmarking operational performance and help identify areas of deficiency that require management's attention.

When developing the integrated resource planning, the Commission's IRP Rules - General Order (Corrected) dated August 28, 2024 (Docket No. R-36262) specify the following conditions:

- ***Section 6 Part G: Sensitivity and Scenario Analysis.*** Requires evaluation of the risk of unacceptable cost increases under certain conditions. This analysis must now consider transmission needs and regional constraints to ensure that the selected resource plan provides for a robust scenario that is not only economic but also operationally sound within the broader transmission grid.

8) Public interest criteria for approval and monitoring of electric generating facility projects.

The major public interest criteria when approving and monitoring of electric generating facility projects focus on:

- Whether impact on ratepayers is prudent and fair;
- How the proposed facility contributes to meeting the current and future demand needs;
- Whether the proponent is fit in terms of operational competence and financial capacity;
- Evaluation of the impact on other market participants – whether there is any adverse impact on the competitiveness;
- How it impacts the reliability and safety of the electric system.

9) Rules and policies on cost recovery, including Cleco Power's formula rate plan or other rate plan in place during the course of the IRP.

The latest Commission's Order No. U-36923 approved the Uncontested Proposed Stipulated Settlement regarding Cleco Power's Application for Implementation of Changes in Rates and Extension of the Formula Rate Plan (August 2024). The order establishes the "Third Amended and Restated Formula Rate Plan" effective July 1, 2024, through June 2027. The main feature of the Formula Rate Plan is an earnings bandwidth centered on a target return on equity ("ROE") of 9.70%. The plan includes a "no-sharing" deadband where the company retains 100% of earnings up to 10.30%. Earnings between 10.30% and 10.50% are subject to sharing between the company and customers, while all earnings exceeding 10.50% of ROE are refunded to customers.

10) Rules and policies on cost recovery, including ELL's formula rate plan or other rate plan in place during the course of the IRP.

The latest Commission's Order No. U-36959 approved the ELL's Application for Extension and Modification of Formula Rate Plan (September 13, 2024). ELL's rates have been set using the Formula Rate Plan since 1995. The latest order extended the FRP period for three years (covering Test Years 2023, 2024, and 2025). Under this extension, ELL's rates are subject to an ROE bandwidth of 9.15% to 10.15% (based on a midpoint of 9.65%). If earnings fall outside this bandwidth, rates are adjusted to reset the return to the midpoint. The order also increased the cap on the Distribution Recovery Mechanism ("DRM") to $375 million annually.

11) MISO tariffs, rules and planning processes.

LEI has a deep understanding of the MISO market. LEI monitors the market for ongoing client work and produces a semi-annual regional market update and wholesale price forecast for MISO and ten other North American power markets. A sample of relevant MISO experience including tariffs, rules and planning processes is shown in Section 2.2.3.

2.2 Selected experience

This section provides a selection of projects relevant to the proposed engagement. The projects listed here are indicative of LEI's expertise and are not an exhaustive record of experience.

2.2.1 Regulated utility issues: integrated resource planning, revenue requirements, cost of service, cost of capital analysis, tariff design

LEI has over a decade of experience in rate cases, as well as in rate design and tariff design in the United States and globally. Specific examples include recent experience in evaluating IRPs:

- ***Louisiana investor-owned utilities' IRPs*:** On behalf of the Louisiana Public Service Commission, LEI reviewed the IRP process and reports for Entergy Louisiana [Docket No. I-36181], Cleco Power [Docket No. I-36175], and SWEPCO [Docket No. I-36242] and served as the outside technical independent consultant. LEI reviewed and examined filings and pre-filed testimony; drafted, reviewed, and responded to discovery, and prepared the Staff Report and Recommendations. LEI appeared at technical conferences and hearings.
- ***Georgia Power Company IRP:*** LEI was engaged by a public interest group to serve as an independent technical consultant on selected issues related to the IRP of Georgia Power (Docket No. 56002 and 56003). LEI focus included examining whether Georgia Power's projections of load growth from data centers was reasonable and also provided an evaluation of Georgia Power's resource procurement process. LEI provided written and oral testimony on behalf of the client.
- ***Montana-Dakota Utilities ("MDU") 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 cost-of-service rate case (Case No. PU-22-194). LEI examined key components of the rate case, which included the depreciation study, tax rates, environmental upgrades, transmission investment, the ROE/common equity ratio, cost allocation, and amortization of early retirement of coal plants.
- ***Rate case for Massachusetts utility:*** LEI was hired to advise a gas utility company in Massachusetts on their performance-based distribution ratemaking filing. LEI performed a total factor productivity study and an econometric benchmarking analysis of utility performance. The reports were used by counsel to develop the company's strategy for the rate filing and were filed as testimony. LEI prepared direct written testimony, delivered oral testimony, developed interrogatory requests, responded to interrogatories by opposing counsel, and prepared rebuttal testimony. [Massachusetts DPU Docket No. 19-120].
- ***Rate design for Kansas:*** LEI was selected by the Kansas Legislative Coordinating Council ("LCC") to perform a study of the retail rates of Kansas public electric utilities. The purpose of the study was to inform electric sector policies and result in competitive electric rates and reliable electric service in Kansas. Part of the study focused on exploring options for retail electricity tariffs.
- ***Comparison of rates for retail consumers:*** LEI was retained by a power industry advocacy group to review rates charged to final consumers across Canada and identify distortions in rate design across provinces. LEI performed modeling to account for distortions and developed appropriate calculations to accurately compare rates across jurisdictions.

- ***Rate impact study:*** LEI was engaged by an industry association to perform a study of the impact of electricity rates on Ontario's manufacturing sector. The scope of work consisted of a review of Ontario industrial electricity rates and rate designs; assessment of competitive electricity rate levels; development of options to change rates in a manner consistent with rate setting principles and beneficial to industrial consumers and the Province; quantification of economic benefits from appropriate rate adjustments; and consultation with industry and government officials and experts.
- ***Management of rate case filing:*** LEI was retained by the largest electric utility company in Malaysia to provide project management services for the client's performance-based regulation ("PBR") submission. LEI's scope of work consisted of several tasks: proposing the policy and governance framework for the PBR submission; providing a detailed project plan; assessing the regulatory requirement model; ensuring accurate and timely delivery of workshops; and reviewing the filing before submission.
- ***Rulemaking to study renewable energy tariff, aka "green tariff" options:*** LEI supported the Louisiana Public Service Commission ("LPSC") in Docket No. R-35423. LEI provided framing questions for stakeholder feedback on green tariff options, evaluated stakeholder responses, provided in-depth case studies of green tariffs in other US jurisdictions, and provided other consultatory services for the Commission.
- ***Tariff review:*** LEI was engaged by the Argentine regulatory authority to conduct a tariff review of Edenor, a large utility. The LEI-led consortium advised the regulator on international best-practice design of tariffs, proposed a tariff setting methodology, provided technical assistance in the analysis of information presented by Edenor, proposed tariffs, and assisted the regulator during public hearings.
- ***Tariff design:*** LEI was commissioned to support the Saudi Arabian power regulator in setting an electricity tariff. The work entailed data collection, assessment of costs of generation, transmission, and distribution, development of appropriate tariff setting methodologies, analysis of possible incentive mechanisms, drafting and creating regulatory tools, and helping to create the tariff review unit.
- ***Development of tariff impact model:*** LEI was engaged by a private client to provide expert services in connection with the motion of the Financial Management and Oversight Board of Puerto Rico, as representative of the Puerto Rico Electric Power Authority ("PREPA"), and the Puerto Rico Fiscal Agency and Financial Advisory Authority for approval of a settlement with PREPA's bondholders in PREPA's PROMESA Title III case. LEI modelled the tariff impact of the debt restructuring proposal on retail tariffs.
- ***Update and review of revenue requirements model:*** LEI advised and assisted Malaysia's national electric utility, TNB in developing and implementing a comprehensive project plan on its Incentive-based Ratemaking ("IBR") Regulatory Period 2 ("RP2") submission. LEI was responsible for updating and reviewing the revenue requirement model, and also developed a quantitative analysis of the operating expenditure and capital expenditure efficiency carryover mechanism.
- ***Impact of solar net metering on various customer classes:*** LEI calculated how the current net metering regime in Malaysia impacts different classes of customers (owing to a tariff

design that is largely volumetric) and modelled how changing to a more cost reflective tariff with higher fixed charges and lower volumetric charges would result in less unintended cross subsidy between customer classes.

- ***Outlook for customer rates:*** LEI was retained by the Indiana Chamber of Commerce Foundation ("ICCF") to perform a study of Indiana's Energy Policy. As part of the study, LEI forecasted the blended electricity rates of investor-owned utilities ("IOUs") in Indiana, which included a forecast of wholesale electricity prices, capacity prices, rate base capacity charges, transmission rates, distribution rates, and other rate riders.
- ***Evaluation of impact on revenue requirements of potential public ownership of an electric utility:*** For the Maine Public Utilities Commission, LEI analyzed the impact of a directive called for the creation of a consumer-owned public utility called the Maine Power Delivery Authority ("MPDA"). This Authority would acquire, and subsequently operate, the transmission and distribution (T&D") assets owned and operated by the two Maine investor-owned utilities ("IOUs"). LEI's analysis was both qualitative and quantitative. The quantitative analysis involved a projection of T&D rate impacts on Maine electric consumers by evaluating the direction and magnitude of potential changes in the annual revenue requirements over time (2020-2050), under a scenario where the IOUs continue to exist and operate their assets (the "Status Quo" Scenario) versus a scenario where the MPDA is formed, acquires the T&D assets of the IOUs, and oversees the operation of the utility business (the "MPDA Scenario").
- ***Cost of service study for cost allocation***: LEI was retained to review the Alberta Energy System Operator ("AESO") 2018 Tariff Application with specific focus on the allocation of transmission costs using a 12-CP allocator as well as to confirm the accurate application of the AESO's cost of service methodology in its filed cost of service model.
- ***Cost of capital parameters review:*** LEI was retained by the Ontario Energy Board ("OEB") to provide updates on the macroeconomic conditions of the utility sector in Ontario. 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 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.
- ***Cost of capital and risk factors:*** LEI was engaged by Ontario Power Generation ("OPG") to support senior management through regulatory processes related to performance-based rates. LEI prepared a discussion paper on incentive regulation mechanisms ("IRM") currently in place in Ontario for electricity and natural gas distribution utilities and presented it at a technical workshop at the OEB. LEI also provided expert testimony regarding cost of capital and risk factors associated with OPG's prescribed assets, as well as creating a risk-return continuum on which power sector assets could be placed.
- ***Cost of capital opinion***: LEI was retained by a Canadian power utility to assess costs and benefits associated with output from coal fired power stations in Alberta. This engagement involved considering only information known as of a given historical year, to be used in a tax litigation case. LEI created pro forma valuation of contracts as of the

given year, including forecast costs and revenues, and rendered an opinion on the appropriate cost of capital to be used.

- ***Cost of capital for Hong Kong rate regime:*** LEI was retained by the Hong Kong Special Administrative Region government to assess certain aspects of the Hong Kong regulatory regime for electricity, such as cost of capital, rate base calculations, efficiency incentives, and fuel cost pass through mechanisms.
- ***Cost of capital and optimal capital structure:*** LEI advised Jordan's power regulator on the weighted average cost of capital and optimal capital structure for the country's three electric distribution companies. The recommended optimal capital structure was consistent with targeted debt service and interest coverage ratios in line with the rating methodology for distribution companies from the global credit rating agencies. LEI's work also included identifying salient risk factors for the distribution companies, identifying appropriate local and international metrics and benchmarks, developing a usable cost of capital model, and providing training workshops for local staff.
- ***Revenue requirement:*** LEI was retained by a large Canadian vertically integrated utility to assist with the creation of a comprehensive set of data requests to be submitted by the client in OEB case EB-2015-0275, the IESO's 2016 revenue requirement submission. LEI researched matters relating to the revenue requirement submission and past IESO fee applications, analyzed the cost allocation study prepared for the IESO, and proposed a detailed list of interrogatory requests on behalf of the client.

- ***RFP Independent Evaluation:*** 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.

- ***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.

2.2.2 Utility management and prudency audits

LEI's experience in utility management auditing provides LEI with hands-on familiarity with financial and management practices that provide the foundation for understanding utility costs.

- ***Audit of fuel adjustment clause of Entergy Louisiana:*** LEI was engaged by LPSC, Docket No. X-35523, 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; determining the appropriateness of interest rates 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.
- ***Audit of fuel adjustment clause of Cleco Power:*** LEI was engaged by LPSC, Docket No. X-35522, to perform an audit of the Fuel Adjustment Clause filings of Cleco Power. The audit involved detailed examination of monthly true-ups of incurred costs with billed costs; determining the appropriateness of interest rates 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.
- ***Audit of price stabilization rider of Duke Energy:*** LEI was engaged by the Public Utility Commission of Ohio ("PUCO") to perform an audit of the Price Stabilization Rider ("PSR") of Duke Energy Ohio related to Duke's purchase of energy from the Ohio Valley Electric Corporation ("OVEC"). Aspects of the audit included assessing the reasonableness and prudency of the disposition of energy and capacity in the PJM market of the energy provided by two coal plants, as well as plant performance, compliance with environmental requirements, and the prudency of fuel purchases. LEI also audited charges and true ups related to the company's quarterly PSR filings.
- ***Audit of power purchase agreement ("PPA") rider of AEP Ohio:*** LEI was engaged by the PUCO to perform an audit of the PPA Rider of AEP Ohio related to AEP's purchase of energy from the Ohio Valley Electric Corporation ("OVEC"). Aspects of the audit included assessing the reasonableness and prudency of the disposition of energy and capacity in the PJM market of the energy provided by two coal plants, as well as plant

performance, compliance with environmental requirements, and the prudency of fuel purchases. LEI also audited charges and true ups related to the company's quarterly PPA filings.

- ***Audit of alternative energy tariff rider:*** LEI was engaged by the PUCO to perform a management/performance audit of the Alternative Energy Rider of AEP Ohio. LEI examined processes involved in procuring renewable energy credits ("RECs") and solar renewable energy credits ("SRECs"). LEI worked closely with the financial auditor to ensure all relevant accounting categories were accurately assigned. LEI compared and benchmarked AEP Ohio RECs costs, SRECs costs, and other operational results against data from public sources. LEI modeled the impact on ratepayers.
- ***Management audits of Entergy Mississippi and Mississippi Power Company:*** LEI was engaged by the Mississippi Public Service Commission ("MPSC") to perform a two-year audit of the management activities of Entergy Mississippi. 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. LEI also audited the prudency of MISO operations and overall plant operations. Following the two-year audit, the MPSC engaged LEI for another two years to perform a similar audit of Mississippi Power Company, the other major vertically integrated utility in the state; following that two year-assignment, MPSC again engaged LEI for a two-year audit of Entergy Mississippi.

2.2.3 MISO region experience

LEI closely monitors the MISO region for ongoing client work, and produces a semi-annual regional market update and wholesale price forecast for eleven North American power markets, including MISO. Client projects have included:

- ***MISO ARR/FTR:*** LEI was retained by MISO to assess its revenue requirements and financial transmission rights ("ARR/FTR") markets. More specifically, LEI evaluated the overall efficiency of the ARR/FTR markets, assessed the impact of financial traders on the ARR/FTR markets, and identified any gaps and opportunities for improvement in the market design and administration.
- ***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 of MISO compared with membership of SPP.
- ***Due diligence for a potential asset acquisition in MISO:*** LEI was engaged to assist in due diligence for a gas-fired generation asset. LEI reviewed 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 the gas and electricity market in the region.

- ***Revenue opportunity for gas-fired cogeneration units in MISO:*** LEI was engaged to inform the client of potential risks upon the termination of power purchase agreements ("PPAs"). LEI simulated MISO's energy and capacity markets and derived forecasts of wholesale energy prices and capacity prices relevant to the units' geographic location.
- ***Simulation-based modeling exercise to determine the potential revenues for the proposed transmission project wheeling power from western MISO to eastern MISO (and eventually PJM):*** LEI evaluated both the revenue opportunities to the investors (e.g., private benefits of the line based on market price differences and the market value of the transmission) as well as social benefits to the MISO system (i.e., wholesale price reductions and capacity market price differences); and evaluated the incremental value of the business strategy of selling the energy (and capacity) out of East MISO to third parties who will serve customers ultimately in PJM.
- ***Expert testimony in response to supplemental notice of public rulemaking ("NOPR") on RTO incentives:*** LEI was retained by counsel to the MISO transmission owners to prepare a cost-benefit evaluation of FERC's proposed policy changes with respect to the RTO ROE adder. LEI's reports were submitted as evidence at FERC. [FERC Docket No. RM20-10-000]
- ***Review of transmission investment in multi-state RTOs***: LEI was retained by a Midwest utility to examine transmission investment plans in MISO and other RTOs. LEI examined the major investment trends for transmission owners in MISO and other multi-state RTOs. The comparative analysis included a review of the planning process in each RTO, and investment trends (including outcomes emerging from FERC Order 1000).

2.2.4 Expert witness experience

LEI has performed dozens of engagements involving serving as an expert witness. The work listed below is a small sample.

- ***Reasonableness of utility financing request:*** On behalf of a Midwestern distribution cooperative, LEI reviewed a generation and transmission ("G&T") cooperative's petition before the Indiana Utility Regulatory Commission ("IURC") for approval of $300 million in financing for the next three years. LEI's review included an assessment of the information provided by the applicant regarding the planned capital expenditures, as the IURC's standard of review requires a determination that the application is in the public interest. LEI also assessed the various risks associated with the financing request, and how these risks could impact end-use customers, including the customers served by the distribution cooperative that retained LEI. LEI filed written testimony. [IURC Cause No. 45656]
- ***Stranded cost assessment:*** LEI was retained by Tipmont REMC ("Tipmont") to prepare an independent expert assessment of potential stranded costs for its early termination of a wholesale power supply agreement with Wabash Valley Power Association ("WVPA").

LEI's analysis was filed with FERC in February 2020; LEI testified in May 2021. [FERC Docket No. ER20-1041-000]

- ***Rate impact analysis and study of costs and benefits of municipalization:*** LEI was retained by the Maine Public Utility Commission to study proposed legislation that would involve municipalization of the state's transmission and distribution networks. LEI submitted its expert report for the Legislature on February 15, 2020, and testified before the Joint Standing Committee on Energy, Utilities and Technology on February 26, 2020. [MPUC Docket 2019-00280]
- ***Expert witness in a performance-based ratemaking case for a gas LDC:*** LEI was retained in early 2019 to conduct Total Factor Productivity and Benchmarking analyses for the US gas distribution industry and provide expert technical advice to a gas utility company in Massachusetts; LEI's analysis and expert testimony was submitted in anticipation of a performance-based distribution ratemaking application in late 2019; LEI testified before the Massachusetts DPU in June 2020. [DPU Docket 19-120]
- ***Independent expert assessing role of Enbridge Line 3 for Minnesota***: LEI was engaged as the independent market expert assisting the Minnesota Department of Commerce in evaluating the application of Enbridge Energy for a Certificate of Need for its Line 3 oil pipeline expansion project. LEI provided written testimony, responded to interrogatory requests, and provided written surrebuttal and oral testimony. [Docket No. PL-9/CN-14-916, OAH Docket No. 65-2500-32764]
- ***Independent expert related to Maine Energy Cost Reduction Act:*** LEI was engaged by the State of Maine Public Utilities Commission ("MPUC") 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
- ***Testimony related to 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 how market rules incentivize new entry and produce dynamic efficiency gains. AUC Docket Number 1607958. URL: http://www.auc.ab.ca/regulatory_documents/Pages/default.aspx
- ***ISO-New England tariff design:*** LEI submitted testimony on behalf of ISO-New England ("ISO-NE") to the FERC to help defend the ISO'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

intensive financial modeling and frequent interaction with stakeholders. (2000) [ER01-316-000]

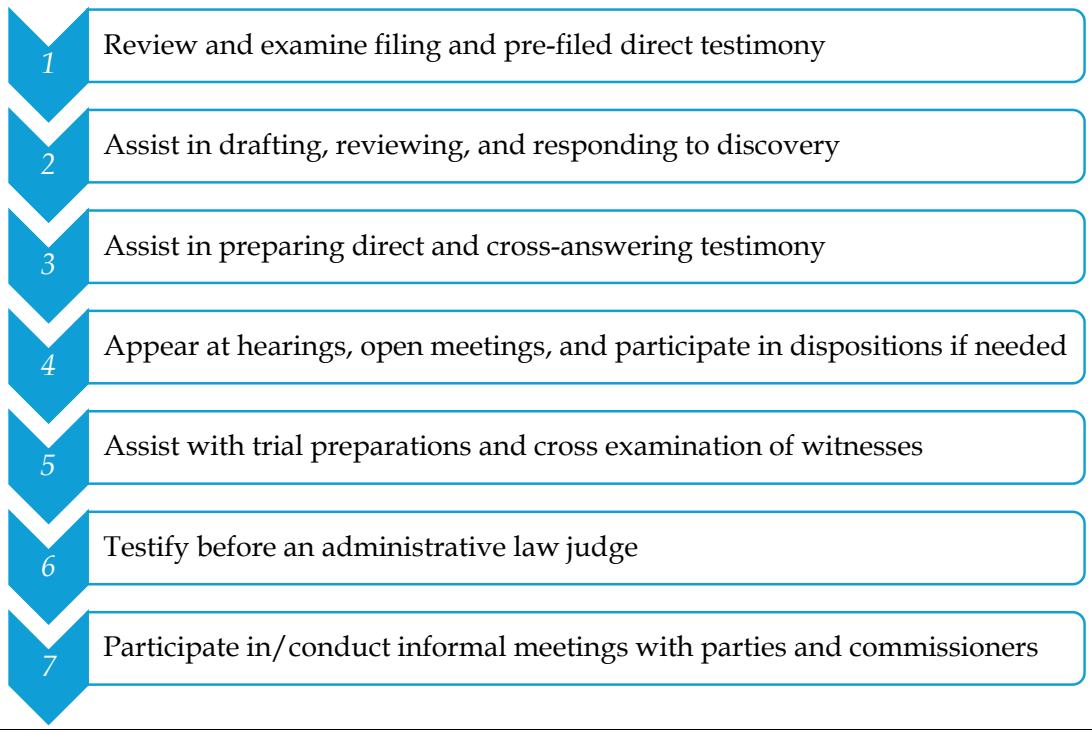
- ***Triennial market power analysis (southeast region):*** In support of a client's application to renew market-based rate authorization under the jurisdiction of FERC, LEI performed Pivotal Suppliers Analysis and Market Share Analysis for the Entergy balancing authority area. (2011) [ER97-4281 et al.]
- ***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 the California Independent System Operator ("CAISO") and ISO-NE energy markets, as well as a standalone Herfindahl-Hirschman Index ("HHI") analysis for the capacity markets. (2010) [EC10-88-000]
- ***Analysis of generation market power under FERC's indicative screens for market-based rate authorization:*** In support of the acquisition of a 21-MW solar photovoltaic (PV") facility, LEI performed an updated market power analysis for acquirer's affiliates in the California ISO which have been granted market-based rate authorization and prepared the related Section 203 filing. (2010) [ER10-204-000]

3 Proposed plan of action

Based on the RFP requirements and LEI's previous experience working on IRPs in Louisiana, LEI proposes several tasks to structure this engagement (see Figure 4). LEI's plan of action is discussed in detail below. This plan can be viewed as a starting point, as LEI understands that the LPSC and its Staff will have the right to determine how these tasks will be carried out.

In the course of this engagement, LEI senior team members will confer with the LPSC Staff in the form of periodic calls and by e-mail and will be available to attend meetings in Baton Rouge as needed. LEI senior staff will be available to attend or lead technical conferences, if any, and conduct informal meetings with parties as needed.

Figure 43. Major tasks



3.1 Task description

Based on the RFP, LEI envisions 8 tasks with associated deliverables. These are summarized in Figure 4 above and discussed in detail below. All tasks will be performed separately for each IRP docket.

3.1.1 Task 1: Review and examine filing and pre-filed direct testimony

LEI will examine JDEC, DEMCO, SLEMCO, and 1803's to-be-filed application and evidence seeking approval if its Integrated Resource Plan and consistency with General Orders noted in

Section 2.1 above. LEI will review all four utilities' and intervenors' filings in this matter, or as required by Staff.

Deliverable associated with Task 1

The deliverable for Task 1 will be a memo containing LEI's initial findings about the implications of JDEC, DEMCO, SWEMCO, and 1803's proposed IRPs and their suitability in the MISO context, and initial findings on other relevant issues which may become apparent.

3.1.2 Task 2: Assist in drafting, reviewing, and responding to discovery

As part of the hearing process, LEI will work with Staff to identify issues and/or sticking points in filings, to ensure consistency with General Orders, MISO rules, and other issues.

LEI will provide support for drafting, reviewing, and responding to any discovery and information requests ("IRs"). LEI's discovery questions for JDEC, DEMCO, SLEMCO, 1803, and other intervenors may include requests for data, computations, and analysis for LEI to examine in detail, as well as assumptions which may have been implied but not made explicit in witnesses' filings and reports. These may be propounded on interveners, experts, and the four utilities on an individual basis.

Deliverable associated with Task 2

The deliverable(s) under Task 2 will be a set of written discovery questions related to initial filings and testimony, and follow-up discovery questions if needed, related to rebuttal and surrebuttal testimony.

3.1.3 Task 3: Assist in preparing direct and cross-answering testimony

As part of the hearing process, in addition to drafting the direct testimony, LEI will also review materials submitted by other parties and their expert witnesses, and in accordance, prepare information requests as needed. LEI is equipped to produce responses and rebuttal testimony addressing any issues stemming from the scope of representation specified in the RFP.

Deliverable associated with Task 3

The deliverable(s) under Task 3 will be written direct testimony, written rebuttal testimony, and written surrebuttal testimony as needed.

3.1.4 Task 4: Appear at hearings, open meetings, and participate in depositions if needed

LEI has broad experience in attending and presiding over technical conferences, providing oral testimony, and examining witnesses.

Deliverable associated with Task 4

The deliverables under Task 4 are in-person attendance at scheduled hearings, open meetings, and participation in depositions by LEI's testifying witness, Sayad Moudachirou. Mr. Moudachirou may be accompanied by other LEI staff as needed.

3.1.5 Task 5: Assist with trial preparations and cross examination of witnesses

LEI has experience in developing comprehensive cross-examination questions in rate cases. In some instances, LEI has itself performed the cross examination; in others, LEI has provided background analysis and fundamental information, as well as cross-examination questions for use by counsel.

Deliverable associated with Task 5

The deliverable(s) under Task 5 will be a memo with cross-examination questions, organized by topic and theme.

3.1.6 Task 6: Testify before an administrative law judge

LEI will testify before an administrative law judge as required.

Deliverable associated with Task 6

The deliverable(s) under Task 6 will be a written testimony.

3.1.7 Task 7: Participate in/conduct informal meetings with parties and commissioners

LEI's team is committed to participate in and/or conduct informal meetings as needed.

Deliverable associated with Task 7

The deliverable(s) for Task 7 is participation in informal meetings in person, and/or conference calls, by LEI's testifying witness, Sayad Moudachirou. Mr. Moudachirou may be accompanied by other LEI staff as needed.

4 Timeline and budget

LEI expects to have a kick-off meeting soon after the signing of the contract to adjust the proposed plan of action to meet all LPSC requirements and expectations.

4.1 Timeline

As indicated in the RFP, the time period required for the matter is estimated at approximately 24 months. LEI expects that the schedule and the deadlines will be finalized during the kick-off meeting, or shortly before or after. LEI commits to having the three key staff members noted in Section 1.2 available for the entire period of the project.

4.2 Professional fee budget (not-to-exceed)

LEI offers a total professional fee budget not to exceed **$198,080** for the four IRP Dockets - $49,520 for each IRP Docket (see Figure 5).

Figure 5. Professional fee budget per IRP Docket

Project task	Indicative work load in hours			Total
	Project Manager Barbara Porto	Project Advisor Sayad Moudachirou	Project Researcher Sandy Chen	
Task 1: Review and examine filing and pre-filed direct testimony	3	4	10	17
Task 2: Assist in drafting, reviewing, and responding to discovery	5	4	16	25
Task 3: Assist in preparing direct and cross-answering testimony	5	4	10	19
Task 4: Assist at hearings, open meetings, and technical conferences	3	4	4	11
Task 5: Assist with trial preparations and cross examination of witnesses	5	8	8	21
Task 6: Testifying before an administrative law judge	4	16	2	22
Task 7: Participate in/conduct informal meetings with parties and commissioners	8	8	8	24
	33	**48**	**58**	**139**
Hourly rates	$360	$470	$260	
Amount per IRP Docket	**$11,880**	**$22,560**	**$15,080**	**$49,520**
Total for the four IRP Dockets	**$47,520**	**$90,240**	**$60,320**	**$198,080**

The proposed budget is based on LEI's professional fee rates (see Figure 6) and the estimated number of hours to be dedicated to each task. Please note that these fees represent a significant discount to LEI's standard hourly rates that are typically charged to private sector, for-profit clients.

Figure 6. LEI's professional fee rates

Staff	Project role	Company position	Hourly rate	Daily rate
Sayad Moudicharou	Senior Advisor/Expert Witness	Director	$ 470	$ 3,760
Barbara Porto	Project Manager	Senior Consultant	$ 360	$ 2,880
Sandy Chen	Project Researcher	Consultant	$ 260	$ 2,080

4.3 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 **$3,000.**

In addition, travel costs for each IRP Docket 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, the travel expense budget will be approximately **$4,712** for attendance at two (2) hearing sessions.

Figure 7. Indicative travel costs

Travel	# trips	# people	# nights	Total Cost
Attend hearing	2	1	2	$2,356
Total estimated costs				**$4,712**

Indicative

Note: This travel budget assumes attending two hearings. Additional trips can be added to the scope and billed separately if needed.

4.4 Total budget

The total indicative budget including professional fees, travel, and other expenses therefore amounts to **$205,792** for the four IRP Dockets – $51,448 for each IRP Docket**.**

5 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.

6 Resumes of key staff assigned to the project

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6.1 Sayad Moudachirou

Managing Consultant, 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* 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* Asset Management & Regulatory Affairs
From: 2016	**To:** 2017
Employer:	*Wheelabrator Technologies, Portsmouth, NH* Finance Manager (Corporate and UK based assets)
From: 2007	**To:** 2007
Employer:	*Dresdner Kleinwort Investment Bank, New York City, NY* Intern Market Analyst
From: 2005	**To:** 2005
Employer:	*NATEXIS Arbitrage, Paris, France* 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.

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 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.

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 an 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.

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:*** supported 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.

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.

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]

Industry analysis / market opportunities and new technologies

- *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 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.

6.2 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:

Institution	Hult International Business School
Date:	August 2014
Degree(s) or Diploma(s) obtained:	MBA - Master of Business Administration

Institution	COPPEAD/UFRJ (Brazil)
Date:	December 2010
Degree(s) or Diploma(s) obtained:	Finance Certificate

Institution	Universidade Estácio de Sá (Brazil)
Date:	June 2010
Degree(s) or Diploma(s) obtained:	Bachelor of International Relations

EMPLOYMENT RECORD:

Date:	January 2015 – Present
Location:	Boston, MA
Company:	London Economics International LLC
Position:	Consultant

Date:	July 2008 – August 2013
Location:	Rio de Janeiro, Brazil
Company:	ENEVA (subsidiary of E.ON AG)

Position:	Analyst (July 2010 – August 2013) Intern (July 2008 – June 2010)

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 determine 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 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 modeler 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, and 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 assessing 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 fundamentals of Tariff Design. Barbara presented to TNB's traveling contingent on PBR Requirements standards across different jurisdictions and on fundamentals 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.

6.3 Sandy (Xinyi) Chen

Consultant, London Economics International LLC

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

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 that 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.