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February 8, 2017

VIA EMAIL

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street
P.O. Box 2319 Suite 2700
Toronto, ON M4P 1E4

Dear Ms. Walli:

**Re: EB-2015-0275 – Association of Power Producers of Ontario (“APPrO”) Cost Claim
– Follow-up documentation and affidavit with small correction**

Further to the February 2, 2017 email of Ontario Energy Board staff, please find enclosed copies of courier receipts for APPrO's cost claim in this proceeding. The number of photocopies, also requested by Board Staff, is 577 pages. In counting the copies, we noticed that 5 copies (\$1.25) were included in error in the list of copies and therefore the correct disbursement total for copies and courier should be \$172.81, which is \$86.41 when divided by 2 (i.e., divided between APPrO and HQEM). This lowers the total cost claim by 70 cents (since the \$1.25 is divided between APPrO and HQEM, and HST is added), therefore the correct amount of the cost claim is \$35,923.03. We enclose an updated affidavit with this small error corrected.

Board Staff has also asked for a receipt and explanation regarding the nature of expense for the following item on the London Economics invoice: “data acquisition (pro rate share of annual subscriptions)”. London Economics has advised that this is an allocation across clients of all London Economics' information resources on a pro rata basis. Thus, it is made up of the sum of all data subscriptions divided by the fraction of the amount of the invoice over trailing 12 month revenues. London Economics is working on providing invoices for the OEB in relation to this invoice item.

Please contact the undersigned if you have any questions in relation to the foregoing.

Yours truly,

McCarthy Tétrault LLP

Per:

A handwritten signature in dark ink, appearing to read "H  lo  se Apest  guy-Reux". The signature is fluid and cursive, with a large, stylized "R" at the end.

H  lo  se Apest  guy-Reux
Associate

Enclosure: courier receipts and affidavit

Delivery Details

[Delivery Recall](#)
[Back](#)
Ticket No : [1979925](#)

Waybill No :

Reference :

Status : [C](#)Service : [OVERNIGHT](#)Cost Centre : [1718-187608-481734](#)Date Entered : [15/06/2016](#)Time Entered : [13:15](#)Delivery POD : [Fatima](#)Delivery Date : [16/06/2016](#)Delivery Time : [09:15](#)

Pickup Location

[MCCARTHY TETRAULT](#)
[4900-55 KING ST WEST](#)
[TORONTO, ON CANADA](#)
[COURIER DESK, 416-601-8200](#)

Delivery Location

[ONTARIO ENERGY BOARD](#)
[2700-2300 YONGE ST](#)
[TORONTO, ON CANADA M4P1E4](#)
[KIRSTEN WALLI,](#)

Special Instructions

[No Special Instructions](#)

Delivery Charges

SERVICE CHARGE	OVERNIGHT	\$7.00
VEHICLE	BIKE	\$0.00
WEIGHT	0.00	\$0.00
PIECES	1.00	\$0.00
WAIT TIME	0.00	\$0.00
RET-SAME	No	\$0.00
RET-OTHER	No	\$0.00
AFTR HRS	NONE	\$0.00

TOTAL CHARGES : **\$7.00**

Delivery Details

[Delivery Recall](#)
[Back](#)

Ticket No : 1992629

Waybill No :

Reference :

Status : C

Service : OVERNIGHT

Cost Centre : 1718-218071-486169

Date Entered : 26/07/2016

Time Entered : 16:57

Delivery POD : Ketiane. Eponon

Delivery Date : 27/07/2016

Delivery Time : 10:04

Pickup Location

MCCARTHY TETRAULT
4900-55 KING ST WEST
TORONTO, ON CANADA
COURIER DESK, 416-601-8200

Delivery Location

ONTARIO ENERGY BOARD
2700-2300 YONGE ST
TORONTO, ON CANADA M4P1E4
KIRSTEN WALLI,

Special Instructions

No Special Instructions

Delivery Charges

SERVICE CHARGE	OVERNIGHT	\$7.00
VEHICLE	BIKE	\$0.00
WEIGHT	0.00	\$0.00
PIECES	1.00	\$0.00
WAIT TIME	0.00	\$0.00
RET-SAME	No	\$0.00
RET-OTHER	No	\$0.00
AFTR HRS	NONE	\$0.00

TOTAL CHARGES : **\$7.00**

Delivery Details

[Delivery Recall](#)
[Back](#)

Ticket No : 2016213

Waybill No :

Reference :

Status : C

Service : OVERNIGHT

Cost Centre : 1718-218071-486169

Date Entered : 17/10/2016

Time Entered : 17:19

Delivery POD : fatima

Delivery Date : 18/10/2016

Delivery Time : 09:16

Pickup Location

MCCARTHY TETRAULT
4900-55 KING ST WEST
TORONTO, ON CANADA
COURIER DESK, 416-601-8200

Delivery Location

ONTARIO ENERGY BOARD
2700-2300 YONGE ST
TORONTO, ON CANADA M4P1E4
KIRSTEN WALLI,

Special Instructions

No Special Instructions

Delivery Charges

SERVICE CHARGE	OVERNIGHT	\$7.00
VEHICLE	BIKE	\$0.00
WEIGHT	0.00	\$0.00
PIECES	1.00	\$0.00
WAIT TIME	0.00	\$0.00
RET-SAME	No	\$0.00
RET-OTHER	No	\$0.00
AFTN HRS	NONE	\$0.00

TOTAL CHARGES : **\$7.00**

Delivery Details

[Delivery Recall](#)
[Back](#)

Ticket No : 2037998

Waybill No :

Reference :

Status : C

Service : OVERNIGHT

Cost Centre : 1718-218071-486169

Date Entered : 20/12/2016

Time Entered : 17:34

Delivery POD : Sarah

Delivery Date : 21/12/2016

Delivery Time : 11:38

Pickup Location

MCCARTHY TETRAULT
4900-55 KING ST WEST
TORONTO, ON CANADA M5K1E9
COURIER DESK, 416-601-8200

Delivery Location

ONTARIO ENERGY BOARD
2700-2300 YONGE ST
TORONTO, ON CANADA
KIRSTEN WALLI,

Special Instructions

No Special Instructions

Delivery Charges

SERVICE CHARGE	OVERNIGHT	\$7.00
VEHICLE	BIKE	\$0.00
WEIGHT	0	\$0.00
PIECES	1	\$0.00
WAIT TIME	0	\$0.00
RET-SAME	NO	\$0.00
RET-OTHER	NO	\$0.00
AFTR HRS	NONE	\$0.00

TOTAL CHARGES : **\$7.56**

Ontario Energy Board
COST CLAIM FOR HEARINGS



Affidavit and Summary of Fees and Disbursements

This form should be used by a party to a hearing before the Board to identify the fees and disbursements that form the party's cost claim. Paper and electronic copies of this form and itemized receipts must be filed with the Board and served on one or more other parties as directed by the Board in the applicable Board order. Please ensure all required (yellow-shaded) fields are filled in and the Affidavit portion is signed and sworn or affirmed.

Instructions

- Required data input is indicated by yellow-shaded fields. Formulas are embedded in the form to assist with calculations.
- All claims must be in Canadian dollars. If applicable, state exchange rate and country of initial currency.

Rate: 1.3295

Country: United States

- A separate "Detail of Fees and Disbursements Being Claimed" (comprising a "Statement of Fees Being Claimed" and a "Statement of Disbursements Being Claimed") is required for each lawyer, analyst/consultant and articling student/paralegal.

However, only one "Summary of Fees and Disbursements" covering the whole of the party's cost claim should be provided.

- The cost claim must be supported by a completed Affidavit signed by a representative of the party.
- A CV for each consultant/analyst must be attached unless provided to the Board as prescribed on the Cost Award Tariff.

Except as provided in section 7.03 of the Practice Direction on Cost Awards, itemized receipts must be provided.

File #	EB-2015-0275	Process:	IESO 2016 Expenditure and Revenue Requirement
Party:	Association of Power Producers of Ontario	Affiant's Name:	Heloise Apesteguy-Reux
HST Number:	12598802 RT0001	HST Rate Ontario:	13.00%
	Full Registrant <input checked="" type="checkbox"/>	Qualifying Non-Profit	<input type="checkbox"/>
	Unregistered <input type="checkbox"/>	Tax Exempt	<input type="checkbox"/>
	Other <input type="checkbox"/>		

Affidavit

I, **Heloise Apesteguy-Reux**, of the City/Town of **Toronto**
in the Province/State of **Ontario**, swear or affirm that:

1. I am a representative of the above-noted party (the "Party") and as such have knowledge of the matters attested to herein.
2. I have examined all of the documentation in support of this cost claim, including the attached "Summary of Fees and Disbursements Being Claimed", "Statement(s) of Fees Being Claimed" and "Statement(s) of Disbursements Being Claimed".
3. The attached "Summary of Fees and Disbursements Being Claimed", "Statement(s) of Fees Being Claimed" and "Statement(s) of Disbursements Being Claimed" include only costs incurred and time spent directly for the purposes of the Party's participation in the Ontario Energy Board process referred to above.
4. This cost claim does not include any costs for work done, or time spent, by a person that is an employee or officer of the Party as described in sections 6.05 and 6.09 of the Board's Practice Direction on Cost Awards.



Signature of Affiant

Sworn or affirmed before me at the City/Town of **Toronto**,
in the Province/State of **Ontario**, on **Feb. 8 2017**,
(date)



Commissioner for taking Affidavits

Ontario Energy Board
COST CLAIM FOR HEARINGS



Affidavit and Summary of Fees and Disbursements

File # EB- EB-2015-0275

Process: IESO 2016 Expenditure and Revenue Requirement

Party: Association of Power Producers of Ontario

Summary of Fees and Disbursements Being Claimed

Legal/consultant/other fees	\$	30,526.00
Disbursements	\$	186.42
HST	\$	3,550.61
Total Cost Claim	\$	34,263.03

*+\$1,660 from page 9 which
spreadsheet has left out of total
= \$35,923.03*

Payment Information

Make cheque payable to: Association of Power Producers of Ontario

Send payment to this address: 25 Adelaide St. East, Ste. 1602
Toronto, ON
M5C 3A1

Ontario Energy Board

COST CLAIM FOR HEARINGS



Detail of Fees and Disbursements Being Claimed

File # <u>EB- EB-2015-0275</u>	Process: <u>IESO 2016 Expenditure and Revenue Requirement</u>
Party: <u>Association of Power Producers of Ontario</u>	Service Provider Name: <u>George Vegh</u>

SERVICE PROVIDER TYPE (check one)	Year Called to Bar	Completed Years Practising/Years of Relevant Experience
Legal Counsel <input checked="" type="checkbox"/>	1991	25
Articling Student/Paralegal <input type="checkbox"/>		
Consultant <input type="checkbox"/>		
Analyst <input type="checkbox"/>		
For Consultant/Analyst: <input type="checkbox"/> CV attached		Hourly Rate: <u>\$330</u>
<input type="checkbox"/> CV provided within previous 24 months		HST Rate Charged (enter %): <u>13.0%</u>

Statement of Fees Being Claimed

	Hours	Hourly Rate	Subtotal	HST	Total
Pre-hearing Conference					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
Technical Conference					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
Interrogatories					
Preparation	20.20	\$ 330.00	\$ 6,666.00	\$ 866.58	\$ 7,532.58
Responses		\$ 330.00	\$ -	\$ -	\$ -
Issues Conference					
Preparation	0.00	\$ 330.00	\$ -	\$ -	\$ -
Attendance	0.00	\$ 330.00	\$ -	\$ -	\$ -
ADR - Settlement Conference					
Preparation	4.30	\$ 330.00	\$ 1,419.00	\$ 184.47	\$ 1,603.47
Attendance	3.00	\$ 330.00	\$ 990.00	\$ 128.70	\$ 1,118.70
Proposal Preparation	2.00	\$ 330.00	\$ 660.00	\$ 85.80	\$ 745.80
Argument					
Preparation	24.00	\$ 330.00	\$ 7,920.00	\$ 1,029.60	\$ 8,949.60
Oral Hearing					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
Other Conferences					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
Case Management		\$ 170.00	\$ -	\$ -	\$ -
TOTAL SERVICE PROVIDER FEES			\$ 17,655.00	\$ 2,295.15	\$ 19,950.15

Ontario Energy Board
COST CLAIM FOR HEARINGS
Detail of Fees and Disbursements Being Claimed



File # EB- EB-2015-0275

Process: IESO 2016 Expenditure and Revenue Requirement

Party: Association of Power Producers

Service Provider Name: George Vegh

Statement of Disbursements Being Claimed			
	Net Cost	HST	Total
Scanning/Photocopy	\$ 72.13	\$ 9.38	\$ 81.50
Printing		\$ -	\$ -
Courier	\$ 14.28	\$ 1.86	\$ 16.14
Telephone/Fax		\$ -	\$ -
Transcripts		\$ -	\$ -
Travel: Air		\$ -	\$ -
Travel: Car		\$ -	\$ -
Travel: Rail		\$ -	\$ -
Travel (Other):		\$ -	\$ -
Parking		\$ -	\$ -
Taxi		\$ -	\$ -
Accommodation		\$ -	\$ -
Meals		\$ -	\$ -
Other:		\$ -	\$ -
Other:		\$ -	\$ -
Other:		\$ -	\$ -
TOTAL DISBURSEMENTS:			
	\$ 86.41	\$ 11.23	\$ 97.64

Ontario Energy Board

COST CLAIM FOR HEARINGS



Detail of Fees and Disbursements Being Claimed

File # EB- <u>EB-2015-0275</u>	Process: <u>IESO 2016 Expenditure and Revenue Requirement</u>
Party: <u>Association of Power Producers of Ontario</u>	Service Provider Name: <u>Heloise Apesteguy-Reux</u>

SERVICE PROVIDER TYPE (check one) <input checked="" type="checkbox"/> Legal Counsel <input type="checkbox"/> Articling Student/Paralegal <input type="checkbox"/> Consultant <input type="checkbox"/> Analyst	Year Called to Bar <div style="border: 1px solid black; padding: 2px; text-align: center;">2012</div>	Completed Years Practising/Years of Relevant Experience <div style="border: 1px solid black; padding: 2px; text-align: center;">4</div>	Hourly Rate: <div style="border: 1px solid black; padding: 2px; text-align: center;">\$170</div> HST Rate Charged (enter %): <div style="border: 1px solid black; padding: 2px; text-align: center;">13.0%</div>
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For Consultant/Analyst: ☐ CV attached ☐ CV provided within previous 24 months

Statement of Fees Being Claimed					
	Hours	Hourly Rate	Subtotal	HST	Total
Pre-hearing Conference					
Preparation		\$ 170.00	\$ -	\$ -	\$ -
Attendance		\$ 170.00	\$ -	\$ -	\$ -
Technical Conference					
Preparation		\$ 170.00	\$ -	\$ -	\$ -
Attendance		\$ 170.00	\$ -	\$ -	\$ -
Interrogatories					
Preparation	7.00	\$ 170.00	\$ 1,190.00	\$ 154.70	\$ 1,344.70
Responses		\$ 170.00	\$ -	\$ -	\$ -
Issues Conference					
Preparation	0.00	\$ 170.00	\$ -	\$ -	\$ -
Attendance	0.00	\$ 170.00	\$ -	\$ -	\$ -
ADR - Settlement Conference					
Preparation	11.20	\$ 170.00	\$ 1,904.00	\$ 247.52	\$ 2,151.52
Attendance	6.50	\$ 170.00	\$ 1,105.00	\$ 143.65	\$ 1,248.65
Proposal Preparation	0.70	\$ 170.00	\$ 119.00	\$ 15.47	\$ 134.47
Argument					
Preparation	30.90	\$ 170.00	\$ 5,253.00	\$ 682.89	\$ 5,935.89
Oral Hearing					
Preparation		\$ 170.00	\$ -	\$ -	\$ -
Attendance		\$ 170.00	\$ -	\$ -	\$ -
Other Conferences					
Preparation		\$ 170.00	\$ -	\$ -	\$ -
Attendance		\$ 170.00	\$ -	\$ -	\$ -
Case Management		\$ 170.00	\$ -	\$ -	\$ -
TOTAL SERVICE PROVIDER FEES			\$ 9,571.00	\$ 1,244.23	\$ 10,815.23

Ontario Energy Board
COST CLAIM FOR HEARINGS
Detail of Fees and Disbursements Being Claimed



File # EB- EB-2015-0275

Process: IESO 2016 Expenditure and Revenue Requirement

Party: Association of Power Producers

Service Provider Name: Heloise Apesteguy-Reux

Statement of Disbursements Being Claimed			
	Net Cost	HST	Total
Scanning/Photocopy		\$ -	\$ -
Printing		\$ -	\$ -
Courier		\$ -	\$ -
Telephone/Fax		\$ -	\$ -
Transcripts		\$ -	\$ -
Travel: Air		\$ -	\$ -
Travel: Car		\$ -	\$ -
Travel: Rail		\$ -	\$ -
Travel (Other):		\$ -	\$ -
Parking		\$ -	\$ -
Taxi		\$ -	\$ -
Accommodation		\$ -	\$ -
Meals		\$ -	\$ -
Other:		\$ -	\$ -
Other:		\$ -	\$ -
Other:		\$ -	\$ -
TOTAL DISBURSEMENTS:	\$ -	\$ -	\$ -

Ontario Energy Board

COST CLAIM FOR HEARINGS



Detail of Fees and Disbursements Being Claimed

File # EB- <u>EB-2015-0275</u>	Process: <u>IESO 2016 Expenditure and Revenue Requirement</u>
Party: <u>Association of Power Producers of Ontario</u>	Service Provider Name: <u>AJ Goulding</u>
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p>SERVICE PROVIDER TYPE (check one)</p> <p>Legal Counsel <input type="checkbox"/></p> <p>Articling Student/Paralegal <input type="checkbox"/></p> <p>Consultant <input checked="" type="checkbox"/></p> <p>Analyst <input type="checkbox"/></p> </div> <div style="width: 20%;"> <p>Year Called to Bar</p> <p><input type="text" value=""/></p> </div> <div style="width: 30%;"> <p>Completed Years Practising/Years of Relevant Experience</p> <p><input type="text" value="25"/></p> </div> </div>	
<p>For Consultant/Analyst: <input checked="" type="checkbox"/> CV attached Hourly Rate: <input type="text" value="\$330"/></p> <p><input type="checkbox"/> CV provided within previous 24 months HST Rate Charged (enter %): <input type="text" value="0.0%"/></p>	

Statement of Fees Being Claimed

	Hours	Hourly Rate	Subtotal	HST	Total
Pre-hearing Conference					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
Technical Conference					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
Interrogatories					
Preparation	10.00	\$ 330.00	\$ 3,300.00	\$ -	\$ 3,300.00
Responses		\$ 330.00	\$ -	\$ -	\$ -
Issues Conference					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
ADR - Settlement Conference					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
Proposal Preparation		\$ 330.00	\$ -	\$ -	\$ -
Argument					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Oral Hearing					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
Other Conferences					
Preparation		\$ 330.00	\$ -	\$ -	\$ -
Attendance		\$ 330.00	\$ -	\$ -	\$ -
Case Management		\$ 170.00	\$ -	\$ -	\$ -
TOTAL SERVICE PROVIDER FEES			\$ 3,300.00	\$ -	\$ 3,300.00

Ontario Energy Board
COST CLAIM FOR HEARINGS
Detail of Fees and Disbursements Being Claimed



File # EB- EB-2015-0275

Process: IESO 2016 Expenditure and Revenue Requirement

Party: Association of Power Producers

Service Provider Name: AJ Goulding

Statement of Disbursements Being Claimed			
	Net Cost	HST	Total
Scanning/Photocopy		\$ -	\$ -
Printing		\$ -	\$ -
Courier		\$ -	\$ -
Telephone/Fax		\$ -	\$ -
Transcripts		\$ -	\$ -
Travel: Air		\$ -	\$ -
Travel: Car		\$ -	\$ -
Travel: Rail		\$ -	\$ -
Travel (Other):		\$ -	\$ -
Parking		\$ -	\$ -
Taxi		\$ -	\$ -
Accommodation		\$ -	\$ -
Meals		\$ -	\$ -
Other:	tion (pro rata share of annual data su	\$ 100.01	\$ -
Other:		\$ -	\$ -
Other:		\$ -	\$ -
TOTAL DISBURSEMENTS:			
	\$ 100.01	\$ -	\$ 100.01

Ontario Energy Board

COST CLAIM FOR HEARINGS



Detail of Fees and Disbursements Being Claimed

File # EB- <u>EB-2015-0275</u>	Process: <u>IESO 2016 Expenditure and Revenue Requirement</u>
Party: <u>Association of Power Producers of Ontario</u>	Service Provider Name: <u>Juliana Bruno</u>

SERVICE PROVIDER TYPE (check one)	Year Called to Bar	Completed Years Practising/Years of Relevant Experience
Legal Counsel <input type="checkbox"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px; text-align: center; value: 3;" type="text"/>
Articling Student/Paralegal <input type="checkbox"/>		
Consultant <input checked="" type="checkbox"/>		
Analyst <input type="checkbox"/>		
For Consultant/Analyst: <input checked="" type="checkbox"/> CV attached		Hourly Rate: <input style="width: 100px; text-align: center; value: \$166;" type="text"/>
<input type="checkbox"/> CV provided within previous 24 months		HST Rate Charged (enter %): <input style="width: 100px;" type="text"/>

Statement of Fees Being Claimed

	Hours	Hourly Rate	Subtotal	HST	Total
Pre-hearing Conference					
Preparation		\$ 166.00	\$ -	\$ -	\$ -
Attendance		\$ 166.00	\$ -	\$ -	\$ -
Technical Conference					
Preparation		\$ 166.00	\$ -	\$ -	\$ -
Attendance		\$ 166.00	\$ -	\$ -	\$ -
Interrogatories					
Preparation	10.00	\$ 166.00	\$ 1,660.00	\$ -	\$ 1,660.00
Responses		\$ 166.00	\$ -	\$ -	\$ -
Issues Conference					
Preparation		\$ 166.00	\$ -	\$ -	\$ -
Attendance		\$ 166.00	\$ -	\$ -	\$ -
ADR - Settlement Conference					
Preparation		\$ 166.00	\$ -	\$ -	\$ -
Attendance		\$ 166.00	\$ -	\$ -	\$ -
Proposal Preparation		\$ 166.00	\$ -	\$ -	\$ -
Argument					
Preparation		\$ 166.00	\$ -	\$ -	\$ -
Oral Hearing					
Preparation		\$ 166.00	\$ -	\$ -	\$ -
Attendance		\$ 166.00	\$ -	\$ -	\$ -
Other Conferences					
Preparation		\$ 166.00	\$ -	\$ -	\$ -
Attendance		\$ 166.00	\$ -	\$ -	\$ -
Case Management					
		\$ 170.00	\$ -	\$ -	\$ -
TOTAL SERVICE PROVIDER FEES			\$ 1,660.00	\$ -	\$ 1,660.00

Ontario Energy Board
COST CLAIM FOR HEARINGS
Detail of Fees and Disbursements Being Claimed



File # EB- EB-2015-0275

Process: IESO 2016 Expenditure and Revenue Requirement

Party: Association of Power Producers

Service Provider Name: Juliana Bruno

Statement of Disbursements Being Claimed			
	Net Cost	HST	Total
Scanning/Photocopy		\$ -	\$ -
Printing	\$ -	\$ -	\$ -
Courier		\$ -	\$ -
Telephone/Fax		\$ -	\$ -
Transcripts		\$ -	\$ -
Travel: Air		\$ -	\$ -
Travel: Car		\$ -	\$ -
Travel: Rail		\$ -	\$ -
Travel (Other):		\$ -	\$ -
Parking		\$ -	\$ -
Taxi		\$ -	\$ -
Accommodation		\$ -	\$ -
Meals		\$ -	\$ -
Other:		\$ -	\$ -
Other:		\$ -	\$ -
Other:		\$ -	\$ -
TOTAL DISBURSEMENTS:			
	\$ -	\$ -	\$ -

Tkpr	Date	Hours	Amount	Rate	1/2 Rate Charged	Amount Charged	Status	Description
1838	4/12/2016	0.4		\$392.00	980	490	\$196.00 B	Reviewed correspondence; telephone conv with client. letter to OEB re: timing of settlement conference.
1718	4/18/2016	0.2		\$125.00	625	312.5	\$62.50 B	Review of Procedural Order no. 1 and correspondence to clients re same.
1718	5/20/2016	1		\$625.00	625	312.5	\$312.50 B	Review of draft issues list and application; correspondence with George Vegh re same.
1718	5/24/2016	0.4		\$250.00	625	312.5	\$125.00 B	Drafting of letter re comments on issues list.
1718	5/25/2016	0.6		\$375.00	625	312.5	\$187.50 B	Review of letter re issues list; review of IESO application.
								Preparation for and conference call with clients re planning for interrogatories and next steps; revisions to letter re issues list and filing of same.
1718	5/26/2016	1.8		\$1,125.00	625	312.5	\$562.50 B	Reviewed OEB Procedural Order and Revised IESO evidence.
1838	5/26/2016	4		\$3,920.00	980	490	\$1,960.00 B	Prepared for and attended conference call with clients.
1718	5/31/2016	0.2		\$125.00	625	312.5	\$62.50 B	Review of IESO letter and submission re issues list.
1838	6/9/2016	0.6		\$588.00	980	490	\$294.00 B	Emails and telephone conversation with London Economics re: expert assistance
1838	6/17/2016	4		\$3,920.00	980	490	\$1,960.00 B	Reviewed evidence and prepared IRs.
1838	6/20/2016	4		\$3,920.00	980	490	\$1,960.00 B	Reviewed and revised draft IRs, prepared additional IRs
1718	6/22/2016	1.8		\$1,125.00	625	312.5	\$562.50 B	Review of draft interrogatories and conference call with HQEM and with London Economics re same.
1838	6/22/2016	1.2		\$1,176.00	980	490	\$588.00 B	Prepare for and attend conference call re: IRs.
1838	6/23/2016	2		\$1,960.00	980	490	\$980.00 B	Revised IRs
1838	6/27/2016	2		\$1,960.00	980	490	\$980.00 B	Reviewed and revised additional IRs
1838	6/28/2016	2		\$1,960.00	980	490	\$980.00 B	Revised IRs.
1718	6/30/2016	1		\$625.00	625	312.5	\$312.50 B	Review of interrogatories and small edits to same.
								Review of correspondence re settlement conference issue discussion timing and voicemail to Board staff re scheduling conflict; review of email from Board staff and correspondence with client re same.
1718	7/18/2016	0.3		\$187.50	625	312.5	\$93.75 B	Drafting of letter re timing of discussion of issues at settlement conference.
1718	7/21/2016	0.4		\$250.00	625	312.5	\$125.00 B	Review of letter re timing of discussion of issues at settlement conference.
1718	7/22/2016	0.2		\$125.00	625	312.5	\$62.50 B	Review and filing of letter re timing of issue discussion at settlement conference.
1718	7/26/2016	0.3		\$187.50	625	312.5	\$93.75 B	Review of interrogatory responses.
1718	8/1/2016	0.5		\$312.50	625	312.5	\$156.25 B	Review of interrogatory responses.
1718	8/3/2016	1		\$625.00	625	312.5	\$312.50 B	Review of correspondence re settlement conference and correspondence with McCarthy's team and with client re same.
1718	8/9/2016	0.4		\$250.00	625	312.5	\$125.00 B	Review of answers to interrogatories in preparation for settlement conference; conference call with client re settlement conference; drafting of correspondence re position at settlement conference.
1718	8/15/2016	3.1		\$1,937.50	625	312.5	\$968.75 B	Reviewed IR responses and prepare for settlement conference.
1838	8/15/2016	4.3		\$4,214.00	980	490	\$2,107.00 B	Review of interrogatory responses and review of application and evidence in preparation for settlement conference.
1718	8/16/2016	5		\$3,125.00	625	312.5	\$1,562.50 B	Attended settlement conference; drafting of meeting summary to send to clients re same.
1718	8/17/2016	6.5		\$4,062.50	625	312.5	\$2,031.25 B	Prepare for and attend meeting with client and attend settlement conference.
1838	8/17/2016	3		\$2,940.00	980	490	\$1,470.00 B	Call with IESO and George Vegh; discussion with George Vegh and review of correspondence re same.
1718	8/18/2016	0.7		\$437.50	625	312.5	\$218.75 B	Telephone conversation with IESO and email to client re: settlement discussions.
1838	8/18/2016	1		\$980.00	980	490	\$490.00 B	Correspondence with IESO. Reviewed settlement proposal. email and telephone exchanges with client.
1838	8/31/2016	1		\$980.00	980	490	\$490.00 B	Correspondence re response to the IESO letter requesting that issue 2 be dealt with by way of a written hearing; conference call with client re same and next steps; drafting of letter response.
1718	9/8/2016	1.1		\$687.50	625	312.5	\$343.75 B	Reviewed IESO letter and settlement agreement. prepared for and attended call.
1838	9/8/2016	1		\$980.00	980	490	\$490.00 B	Edits to letter response and correspondence to client enclosing same; filing of same.
1718	9/9/2016	0.3		\$187.50	625	312.5	\$93.75 B	Drafting of letter to Ontario Energy Board re clarification re form of hearing including review of Ontario Energy Board letter and September 9th letter; correspondence to George Vegh re same.
1718	9/22/2016	0.7		\$437.50	625	312.5	\$218.75 B	Review of letter; correspondence to client re same; filing of same.
1718	9/23/2016	0.5		\$312.50	625	312.5	\$156.25 B	Reviewed OEB correspondence. telephone conversation with client and prepared response to OEB
1838	9/23/2016	1		\$980.00	980	490	\$490.00 B	Prepared fees case submissions.
1838	10/6/2016	5		\$4,900.00	980	490	\$2,450.00 B	Discussion with George Vegh re submissions; review of IESO argument in chief; review of materials in preparation for drafting of submissions on retroactivity.
1718	10/7/2016	1.7		\$1,062.50	625	312.5	\$531.25 B	Prepared submissions.
1838	10/7/2016	3.5		\$3,430.00	980	490	\$1,715.00 B	Brief research re Board policy re retroactivity / case law; drafting of submissions against application of new usage fee to January 1, 2016.
1718	10/11/2016	6.8		\$4,250.00	625	312.5	\$2,125.00 B	Prepared submissions.
1838	10/11/2016	5.5		\$5,390.00	980	490	\$2,695.00 B	Drafting and review of submissions re retroactivity; discussion with George Vegh re same; review of full submissions and small edits to same.
1718	10/12/2016	4.7		\$2,937.50	625	312.5	\$1,468.75 B	Prepared submissions.
1838	10/12/2016	5		\$4,900.00	980	490	\$2,450.00 B	Review of client edits; review and revisions to submissions.
1718	10/13/2016	1.6		\$1,000.00	625	312.5	\$500.00 B	

1718	10/14/2016	6.5	\$4,062.50	625	312.5	\$2,031.25 B	Conference call with client; various revisions to / additional drafting of submissions; preparation for filing of same and filing of same.
1838	10/14/2016	1.5	\$1,470.00	980	490	\$735.00 B	
1718	10/21/2016	0.6	\$375.00	625	312.5	\$187.50 B	Attended conference call and revised submissions.
1838	10/21/2016	0.5	\$490.00	980	490	\$245.00 B	Review of IESO final submissions including brief discussion with George Vegh re same.
1718	12/1/2016	0.9	\$562.50	625	312.5	\$281.25 B	Reviewed IESO decision and report to client.
1838	12/1/2016	1	\$980.00	980	490	\$490.00 B	Review of decision; draft email to client and brief discussion with George Vegh re same.
1718	12/2/2016	0.6	\$375.00	625	312.5	\$187.50 B	Reviewed decision and communications re: same.
1718	12/14/2016	0.9	\$562.50	625	312.5	\$281.25 B	Review of decision and review of proceeding materials re impact of forecasts on cost allocation.
1718	12/15/2016	3.1	\$1,937.50	625	312.5	\$968.75 B	Review of IESO cover letter and submission re rate proposal and correspondence to George Vegh re same.
1718	12/19/2016	0.2	\$125.00	625	312.5	\$62.50 B	Drafting of letter responding to IESO submissions re usage fee; discussion with George Vegh re same; review of materials re same and discussion with George Vegh re same.
1718	12/20/2016	0.7	\$437.50	625	312.5	\$218.75 B	Correspondence to client re filing including brief review of same.
Time Total		109.8	\$87,617.50			\$43,808.75	Review of letter to be filed; small revisions to same; filing of same; brief review of Board staff submissions.

Detailed Disl Tkpr	Date	Check	Disb Code	Amount	Status
1718	6/15/2016		6 \$7.00	B	2700-2300 YONGE ST
1718	7/26/2016		6 \$7.00	B	2700-2300 YONGE ST
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$10.50	B	
9912	7/27/2016		12 \$1.00	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$1.25	B	
9912	7/27/2016		12 \$12.00	B	
9912	7/27/2016		12 \$42.00	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$31.00	B	
9912	7/27/2016		12 \$1.00	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$36.00	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$0.25	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$1.75	B	
9912	7/27/2016		12 \$0.50	B	
9912	7/27/2016		12 \$0.25	B	
1718	9/22/2016		12 \$0.50	B	
1718	10/14/2016		12 \$0.50	B	
1718	10/17/2016		6 \$7.00	B	2700-2300 YONGE ST
1718	12/20/2016		6 \$7.56	B	2700-2300 YONGE ST
Disbursements Total			\$172.81		

Disb Code	Description	Amount	1/2 Amount Disbursement Charged
006	Courier / Messenger	\$28.56	\$14.28
012	Copies	\$144.25	72.125
Disbursement Total		\$172.81	86.405



LONDON
ECONOMICS

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Boston, MA 02111 USA
Tel: (617) 933-7200
Fax: (617) 933-7201

July 22, 2016

David Butters
APPrO
25 Adelaide Street, Suite 1502
Toronto, ON M5C 3A1
Canada

Invoice # 4936

LEI was retained by a Hydro Quebec ("HQ") and the Association of Major Power Producers of Ontario ("APPrO") to create a comprehensive set of Interrogatory Requests ("IRs") to be submitted by HQ in Ontario Energy Board ("OEB") case EB-2015-0275 - which was the IESO's 2016 revenue requirement submission.

In June 2016, LEI researched matters relating to the revenue requirement submission, relevant previous OEB cases, and best practices in cost allocation. LEI focused its research and IRs on the cost allocation study by Elenchus which was submitted as expert evidence in the IESO's fee submission to the OEB. The engagement resulted in a comprehensive set of IRs presented to the client for filing in case EB-2015-0275.

Professional Fees for June 2016:

Employee	Title	Hours	Rate (USD)	Total
AJ Goulding	President	10.00	\$ 695.00	\$ 6,950.00
Juliana Bruno	Consultant	31.50	\$ 250.00	\$ 2,500.00
Total Accrued Professional Fees:		10		\$ 9,450.00
50% of fees billed to HQ		(only 10 hours charged)		\$ (4,725.00)
Total Invoiced Professional Fees:				\$ 4,725.00
Other Expenses:				
data acquisition (pro rata share of annual data subscriptions)				\$ 100.01
Total Other Expenses:				\$ 100.01

Total Invoice Amount:

\$ 4,825.01 USD

Proceeds can be wired to:

Citizens Bank, NA
One Citizens Drive
Riverside, RI 02915
Routing/ABA #:011500120
SWIFT Code: CTZIUS33
London Economics International LLC

* AJ Goulding rate: $695 \text{ US} = 924 \text{ CAN}$
 $(\div 2 = 462 \text{ CAN})$
is rate paid by APPrO

* Juliana Bruno rate: $250 \text{ US} = 332.375 \text{ CAN}$
 $(\div 2 = 166 \text{ CAN})$
is rate paid by APPrO



Customer's Copy Copie du client

YONGE & EGLINTON BANKING CENTRE
TORONTO, ONT

4,825.01 UNITED STATES DOLLAR VALUE DATED Aug/03/2016

AUG 10 2016
BY CABLE Reference / Référence
4351415

3958 BIL-2015/05

Date
Aug/03/2016
12:54

Payment Order Ordre de paiement

CURRENCY.....: UNITED STATES DOLLAR
FOREIGN AMOUNT.....: 4,825.01
EXCHANGE RATE.....: 1.3295
CANADIAN EQUIVALENT: 6,414.85
SERVICE CHARGE RATE: 1.3295
SERVICE CHARGES.....: 0.00 USD 0.00
FAX ADMIN FEE.....: USD
FAX CONFIRM FEE.....: USD
CORRESP CHARGES.....: USD
CANADIAN AMOUNT.....: 6,414.85
TOTAL FOREIGN AMOUNT: 4,825.01
CUSTOMER'S ACCOUNT.: 1001111111

COMMENTS:

BY ORDER OF:
ASSOCIATION OF POWER PRODUCERS OF
ONTARIO
1602 25 ADELAIDE ST E
TORONTO ON CA M5C 3A1

DETAILS OF PAYMENT (EG. INVOICE # ETC):

DESTINATION BANK:
BANK IDENTIFIER: CTZIUS33
CITIZENS BANK, NA
1 CITIZENS PLAZA
PROVIDENCE, RI UNITED STATESPAYMENT INSTRUCTIONS:
CREDIT ACCOUNT AND NOTIFYROUTING CODE: ABA
ROUTING NUMBER:
011500120
BENEFICIARY:
ACCOUNT NUMBER:CORRESP. CHARGES:
TO BE PAID BY BENEFICIARYLONDON ECONOMICS INTERNATIONAL LLC
717 ATLANTIC AVE SUITE 1A
BOSTON MA US 02111INTERMEDIARY BANK:
BANK IDENTIFIER: PNBPU3NNYC
WELLS FARGO BANK, N.A.
375 PARK AVENUE
NY 4080
NEW YORK, NY UNITED STATES

Please arrange the payment described above upon the Terms and Conditions on the reverse of this Payment Order. The undersigned acknowledges having read the Terms and Conditions and agrees to be bound by them. If more than one Customer signs this Payment Order the Customers agree that their liability pursuant to this Payment Order shall be joint and several (solidary in Quebec).

Veuillez prendre des dispositions pour effectuer le paiement décrit ci-dessus conformément aux modalités figurant au verso du présent ordre de paiement. Le soussigné reconnaît qu'il a pris connaissance de ces modalités et accepte d'être lié par celles-ci. Si plus d'un client signe le présent ordre de paiement, les clients reconnaissent qu'ils seront solidairement responsables conformément au présent ordre de paiement.

Date	Name of Customer(s) Nom du ou des clients	Authorized Signature Signature autorisée	Authorized Signature Signature autorisée
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Receipt is hereby acknowledged by us, as agents of the remitter, of the sum required to arrange the payment described above, subject to the terms and conditions appearing on the reverse hereof.

Nous accusons par les présentes réception, à titre de mandataires du donneur d'ordre, du montant nécessaire pour effectuer le paiement indiqué ci-dessus, sous réserve des modalités figurant au verso des présentes.

Canadian Imperial Bank of Commerce Banque canadienne impériale de commerce

Per p.p. _____ Signatures - Branch Officers Signature des responsables du centre bancaire

A.J. Goulding



President, London Economics International LLC

KEY QUALIFICATIONS:

In his role as president of London Economics International LLC, A.J. Goulding manages a growing international consulting firm focused on finance, economic, and strategic consulting to the energy and infrastructure industries. In addition to serving as a sector expert in electricity and gas markets, his responsibilities include project management, marketing, budget and financial control, and recruiting. A.J. also serves as an Adjunct Associate Professor at Columbia University, where he teaches a course on electricity market design and regulatory economics while also supervising graduate workshops.

With over twenty years of experience in evolving electricity and natural gas markets, A.J.'s diverse background enables him to work effectively in both emerging markets and OECD countries. In North America, A.J. has been articulate in describing market relationships between wholesale power marketers, merchant plants, aggregators, and the existing investor owned utilities. In emerging markets, A.J. has considerable experience dealing with the challenges of mixed private and public ownership, difficulties in creating credit-worthy distribution and retail entities, and the realities of line losses, unreliable fuel deliveries, and politicized labor relations.

A.J. began his career performing natural gas market analysis for the ICF Resources subsidiary of ICF Kaiser International. Later, he lived for two years in New Delhi, India, where he advised the United States Agency for International Development (USAID) on electric power sector restructuring in India. He continued his work on India while pursuing his MA at Columbia University, leading to the publication of an article on Indian privatization. Simultaneously, he researched the process of power sector reform in Pakistan, contrasting it with the Indian experience. Upon completion of his MA, A.J. served as business development associate for Citizens Power LLC, a top ten US wholesale power marketer. He then moved to London Economics, where he has held roles of progressively increasing responsibility.

EDUCATION:

Earlham College, Richmond, Indiana, B.A. in Economics, 1991. College honors, scholar-athlete, public service graduate fellowship.

Columbia University, New York, New York, M.A. in International Business, 1997. Foreign Language and Area Studies fellowship, Cordier prize.

EMPLOYMENT RECORD:

From: 1996	To: present
Employer:	<i>London Economics International LLC, United States</i> President (July 1999 to present), Senior Consultant (January 1998 to July 1999), Summer Associate (June 1996 to August 1996)
From: September 2003	To: present
Employer:	<i>Columbia University</i> Adjunct Associate Professor (2014 to present), Adjunct Assistant Professor (2003-2014)
From: 1997	To: 1997
Employer:	<i>Citizens Power LLC; Boston, MA</i> Associate
From: 1994	To: 1995
Employer:	<i>USAID; New Delhi, India</i> Energy Consultant
From: 1991	To: 1993
Employer:	<i>ICF Resources, Inc.; Fairfax, VA</i> Analyst

SAMPLE PROJECT EXPERIENCE:

The projects briefly described below are typical of the work A.J. has performed throughout his career at London Economics, Citizens Power, USAID/India, and ICF Resources. A.J. also serves as an adjunct professor at Columbia University, where he teaches a course in electricity market design.

Ontario-related experience

- ***led Ontario gas LDC performance-based ratemaking project:*** LEI was engaged by Union Gas to review Union's proposed 2014 to 2018 incentive ratemaking ("IR") plan as presented to stakeholders on April 29th, 2013 and to examine case studies of approaches to IR applied to other North American gas distribution utilities. In the case study analysis, Union particularly requested LEI to examine approaches to a set list of ratemaking parameters: productivity and X-factor trends, alternative approaches to designing an I-X framework, approaches to establishing inflation factors, approaches in other jurisdictions to applying an Earnings Sharing Mechanism ("ESM"), use of capital trackers for unknown costs, appropriateness of deferral accounts for unaccounted-for gas ("UFG"), and service quality indicators ("SQIs") and how they are measured. LEI was subsequently requested by Union to provide comments on Union's draft Settlement Agreement
- ***submission to Ontario LTEP consultations regarding value of capacity imports:*** On behalf of a large Canadian hydropower generator, LEI analyzed the potential economic benefits of the export of capacity and energy from Quebec to Ontario. The engagement included a review of the treatment of imports in capacity markets in the Northeast, an examination of

the impact on capacity prices of imports, and a discussion of the reliability benefits that long term contracts for capacity imports provide. In addition, LEI discussed how Ontario can create a level playing field for clean energy imports relative to other potential future sources of supply in Ontario

- ***due diligence support associated with the evaluation of the possible acquisition of a minority stake in a major Ontario transmission and distribution company:*** LEI prepared reports and analysis which contributed to the analytic framework for this proposed transaction, including analysis of the regulatory framework, review of impact of PBR on revenues, strategic issues, and the potential for revenue growth
- ***valuation of integrated investor owned utilities ("IOUs"):*** AJ coordinated evaluation effort for acquisition of Southeastern US utility and of Ontario municipal electric utility; tasks included assessment of impact of PBR, calculation of difference in profits from generation portfolio under ratebase versus in open market, and analysis of ratebase settlement
- ***valuation of Ontario generating plants, including assessment of regional electricity markets:*** AJ organized and implemented a major modeling effort to determine the potential value of generation stations in Ontario. Assessed impact of transmission constraints and restructuring efforts in neighboring markets on future the wholesale market prices
- ***price forecasts in key Canadian markets and associated export zones:*** LEI provided long term electricity price forecasts in multiple engagements for key Canadian markets, including Alberta, British Columbia, and Ontario, as well as related export markets such as New York, Midwest ISO, and PJM. Results used by clients for obtaining financing and assessing contract pricing
- ***revenues to hydro portfolio in Ontario:*** For a large North American industrial company, A.J. led the creation of a market study and report underlying the issuance of income trust securities. Tasks included multiple scenario analysis of merchant revenues, review of ancillary services revenues, and an examination of the Ontario hybrid market structure
- ***assessment of the role of a peaking plant in Ontario power sector:*** For an Ontario government body, LEI performed extensive scenario analysis to determine extent to which peaking plant should be a part of future procurement plans in the province; this analysis included assessment of revenues from ancillary services and of optionality
- ***transmission review in Canada:*** LEI was hired by a French consulting firm to provide commentary and insights on the state of the transmission and distribution market in a number of Canadian provinces including Alberta, Ontario, British Columbia, Manitoba, Saskatchewan and Quebec
- ***impact of Ontario market changes on industrial consumers:*** For the Association of Major Power Consumers in Ontario ("AMPCO"), LEI assessed market trends and future entry and exit scenarios to determine long term price dynamics in the face of changes in government deregulation policies
- ***Ontario electricity market paper:*** On behalf of a respected Canadian think tank, LEI provided an assessment of the ways in which the Ontario electricity sector could be improved to increase economic efficiency and reduce costs for consumers over the long run
- ***conservation and demand management (CDM) in Ontario:*** AJ wrote testimony related to the alternative ratemaking approaches available regarding CDM; addressed innovative alternatives and compared and contrasted various schemes in the Ontario context

- ***cost of capital for regulated generating assets:*** AJ provided expert testimony on behalf of the Ontario Energy Board regarding risk factors associated with Ontario Power Generating's prescribed assets, as well as creating a risk-return continuum on which power sector assets could be placed
- ***incentive-based contract design:*** For the OPA, LEI advised on provisions of power purchase agreement associated with incentives for optimization of production in peak periods for hydro facility owned by a major generator
- ***upstream capability to deliver conservation and demand management:*** For the OPA, LEI performed examination of capabilities of Ontario to provide necessary inputs to assure that Ontario meets its conservation and demand management targets; report incorporated into Integrated Power System Plan submission to OEB
- ***regulation of generation in Ontario:*** For the OEB, A.J. authored paper described the ways in which legacy assets of Ontario Power Generation could be regulated, including incentive regulation and a set of regulatory contracts. Deliverables included providing technical advisory during public workshop
- ***potential for regulation of retail market auctions:*** For the OEB, A.J. led engagement to review practice of regulatory oversight of load auctions to serve default supply across North America
- ***examination of contracting processes in Ontario:*** On behalf of the OPA, LEI met with over 50 stakeholder groups to determine potential ways in which contracting process for new supply could be improved. The engagement included assessing practices in other jurisdictions and review of standard offer processes
- ***2nd generation PBR in Ontario:*** AJ led Cdn. \$1.5 million engagement focusing on design of second generation PBR in Ontario. Key components include estimating TFP, determining appropriateness of yardstick competition, analyzing demand-side management programs in the context of PBR, and examining service quality indicators
- ***market power concerns in Ontario:*** LEI determined concentration ratios for existing configuration of generation plant, developed set of recommended portfolios to minimize market power across all timeslots in hourly market in preparation for divestiture or other market power mitigation mechanisms

Written and oral expert testimony

Note: expert testimony was also a component of some projects listed above, particularly regulatory projects for Ontario Power Authority, Ontario Energy Board, and involving incentive rates in Alberta.

- ***review of valuation metrics used in conjunction with tax payment challenge for an Alberta generator:*** assessed the appropriateness of valuations utilized to determine depreciation deductions related to the acquisition of a coal-fired generating station. Engagement also required creating forecasts that would have been appropriate at the time the acquisition was made several years previously, as well as calculating asset values using multiple valuation approaches. Multiple forecasting tools were used. Engagement included developing critiques of work by opposing expert witnesses
- ***examination of Swiss electricity market:*** for a US financial institution, A.J. reviewed the development of the Swiss electricity market and specifically the position of hydro stations within that market. Analysis included a discussion of the factors that influence the value of

hydro stations, presence of foreign owners in the Swiss electricity market, and use of post-tax cash flow to evaluate potential investments

- ***analysis of potential customer impacts due to holding company acquisition of merchant generator:*** discussed ways in which customer rates would be impacted by potential credit rating downgrades of regulated subsidiaries due to holding company parent's acquisition of merchant generator; engagement included examination of impact on default supply as well as reliability
- ***assessment and valuation of quantum merit claims:*** for advisor and developer of biomass facilities, provided expert opinion on value of services provided based on industry knowledge, review of correspondence, and experience providing or commissioning similar services
- ***conservation and demand management (C&DM) in Ontario:*** wrote testimony related to the alternative ratemaking approaches available regarding C&DM; addressed innovative alternatives and compared and contrasted various schemes in the Ontario context
- ***review of Dutch electricity market regulatory dynamics:*** in a case before the US Federal Court of Claims related to economic substance, provided understanding of how Dutch electricity market was structured in the mid-1990s, how it was expected to evolve, and how it did actually evolve. Issues addressed included market structure, regulation, role of non-utility investors, and role of private and international investors
- ***valuation of PPAs associated with IPPs in Thailand:*** as an expert witness in an arbitration case, A.J. quantified the change in value resulting from modifications to several PPAs associated with a power project in Thailand. Engagement included review of PPAs, evaluation of Thai power sector restructuring process, extensive modeling of financial aspects of PPAs, and assessment of financing alternatives; client won on all claims

Regulatory Economics

- ***supported Manitoba cost of service review:*** London Economics International LLC ("LEI") was retained by Christian Monnin Law Corporation, at the request of Manitoba Public Utilities Board, to represent the interests of small commercial customers in its review of Manitoba Hydro's cost of service review
- ***supported setting of Nova Scotia Performance Standards:*** LEI was engaged by the Nova Scotia Regulatory Authority – the Nova Scotia Utility and Regulatory Board (NS UARB) to assist in setting performance standards for NSPI in respect of reliability, response to adverse weather conditions, and customer service for Nova Scotia
- ***conducted NYC entities capacity portfolio analysis:*** For a large Canadian hydropower generator, LEI performed a review and analysis of the capacity portfolio of several entities operating within New York City
- ***served as Ukraine Electricity Tariff Expert:*** As part of a team hired by the Anti-Crisis Energy Group of the Cabinet of Ministers of Ukraine, LEI was tasked with identifying opportunities to streamline and enhance procedures used to set tariffs and prices for electricity produced. LEI performed an extensive literature review of the Ukrainian electricity market, assessed the current tariff-setting regulations and procedures and carried out in-person interviews with stakeholders. LEI wrote a briefing memo on the Ukrainian market and a recommendations paper in line with its scope of work. The recommendations were incorporated into an Energy

Resiliency Plan that would aid decision-making to the Cabinet of Ministers and the Verkhovna Rada

- ***Conducted 2015 Review of Non-Energy Margin:*** London Economics International LLC ("LEI") was asked by ENMAX Energy Corporation ("EEC") to review EEC's proposed non-energy return/risk margin associated with expenses incurred as a result of operation of the Regulated Rate Option ("RRO"). For the client, LEI reviewed the settled practice in Alberta, recent proposed changes providing for an all-inclusive return margin, and calculated an indicative range of margin for EEC.
- ***overview of Colombia market 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 details 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
- ***conducted analysis of Nova Scotia electricity systems:*** LEI was retained by Nova Scotia Department of Energy ("NS DOE") to perform analysis of the organization and governance of electricity systems both cross-jurisdictionally and within the province of Nova Scotia. The scope of work was divided into two main phases: (i) Review of international best practices and lessons learned; and (ii) Translation of best practices and lessons learned into best fit for NS
- ***assessed consistency of proposed Clean Energy Standard with existing Alberta electricity market design characteristics:*** Paper included discussion of potential additional program attributes, indicative cost assessment, impact on investment and reliability, and assessment of further required research
- ***assisted generator in hydro development strategy:*** assisted Alberta generator on strategy related to new large scale hydro development, including justification as inflation hedge for potential pension fund investors, integration into competitive market while maintaining ability to finance, and other strategic and regulatory support
- ***conducted IBR workshop in Malaysia:*** LEI was retained by the largest electric utility company in Malaysia to conduct a workshop on incentive-based ratemaking ("IBR"). The topics for the workshop include theoretical conceptual overview of IBR regulatory framework, key elements of comprehensive IBR regimes, best practices of IBR in various jurisdictions, timing and framework in other jurisdictions, how to convince regulators and stakeholders, identifying barriers to successful implementation of the IBR, and moving from first to second generation IBR, to name a few.
- ***developed a transmission cost causation study for the Alberta Electric System Operator ("AESO"):*** the study will be used for the determination of the AESO's Demand Transmission Service Rate DTS, and is expected to be filed with AESO's 2014 tariff application to the Alberta Utilities Commission ("AUC"). The study is intended to cover four main topics: (i) Functionalization of Capital Costs; (ii) Functionalization of Operating & Maintenance

("O&M") costs; (iii) Classification of Bulk and Regional System Costs; and (iv) Implementation Considerations

- ***conducted review of gas transmission sector in the US:*** for a European economic advisory firm, LEI reviewed the US gas transmission sector focusing on its regulatory structure. Tasks included researching the regulatory approach, legal framework, allowed capital costs and incentive mechanisms of the US gas industry
- ***review of rate of permitted return in Hong Kong:*** for the Hong Kong Government, LEI reviewed the rate base and the rate of permitted return for the power companies in Hong Kong under the Scheme of Control Agreements. This required reviewing the alternatives to using Average Net Fixed Assets as the rate base, examining the assumptions used and methodology to calculate the WACC of power companies, updating the indicative range for the permitted rate of return, and recommending changes to existing rates of return by identifying new international best practices
- ***supported client's transmission FBR reopening application:*** in particular, the client wanted LEI to provide an independent opinion on their argument (i) to amend the G factor calculation to eliminate the G-factor lag effective January 1, 2011 and (ii) to reduce EPC's current X factor of 1.2% to 0.0%. LEI provided support throughout the whole litigation proceeding by responding to information requests which involved additional research and analysis, including synthesis of publications on recent technological advances in electricity transmission sector, and updating the Ontario LDCs TFP model to ten years
- ***reviewed the US gas transmission sector focusing on its regulatory structure:*** on behalf of a European economic advisory firm, an LEI team, led by AJ, reviewed the US gas transmission sector. Tasks included researching the regulatory approach, legal framework, allowed capital costs, and incentive mechanisms of the US gas transmission industry. Analysis focused on US Federal Energy Regulatory Commission ("FERC") regulatory proceedings, as well as state commission findings, related to allowed returns, capital investment requirements, and treatment of capacity
- ***developed financial, commercial, and regulatory framework, in addition to drafting an investment strategy and model for Saudi clean energy institution:*** deliverables included: (i) A master plan on how to develop renewable and atomic energies based on local value chains in Saudi Arabia; (ii) An economic framework to create a favorable environment in order to follow this master plan; (iii) An investment strategy to make use of KSA resources and available funds in an efficient way; (iv) A multitude of international case studies to avoid costly mistakes in the future and to know when to adopt; (v) A final report on 'National Policy for Investment in Alternative Energy Sources'; and (vi) Two 'sales pitch' documents for submittal to the King's Supreme Council and for the financial community
- ***advised Jordan regulator:*** advised the regulator on the weighted average cost of capital and optimal capital structure for Jordan's three distribution companies: EDCO, IDECO and JEPKO. 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. 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

- ***drafting National Renewable Energy Plan for Saudi Arabia:*** on behalf of the regulator, developed proposal for renewable energy plan for Saudi Arabia, including assessment of procurement methods, new institutions required, and determination of resource eligibility
- ***rate design for water and wastewater services in Saudi Arabia:*** on behalf of utility serving industrial areas in the Kingdom, examined appropriate regulatory structure and recommended approach to establishing new regulatory body, including composition of regulator, incentive structure, and tariff modeling
- ***design of wheeling tariff and pilot program for Saudi Arabia:*** for Saudi regulator, developed proposed plan for wheeling of power in Saudi Arabia, including proposed pilot program, assessment of impact on incumbent, relative economics of wheeling versus the industrial tariff, and review of associated commercial and regulatory issues
- ***tariff design for Kingdom of Saudi Arabia:*** led engagement with international team assessing tariff design, modeling, and electricity market evolution in Saudi Arabia; engagement resulted in a revised tariff system, including performance based rates, tolling agreements for generation, and an open access tariff. Included holding workshops for regulator in explaining cost of capital, tariff design, and other regulatory issues
- ***Electricity Industry Restructuring Plan for Saudi Arabia:*** A.J. developed the blueprint for industry restructuring in Saudi Arabia, including unbundling of the current monopoly vertically integrated utility, introduction of wholesale competition, and creation of a Single Buyer
- ***developed regulatory incentives in Jordan:*** examined regulatory framework in Jordan, with particular focus on creating specific regulatory incentives for distribution companies to optimize their operational expenses. Proposals envision move away from cost of service regime to incentive based structure benefiting customers and shareholders
- ***global regulatory review:*** assisted private equity player in assessing electricity markets in Eastern Europe, Turkey, Asia, and Latin America to determine potential regulatory and market issues associated with proposed purchase of diverse portfolio of generation, distribution, natural gas pipeline, and retail fuels businesses
- ***assessed retail margin review for generator in India:*** reviewed retail margins on electricity sales worldwide, in order to provide Indian generator insight with regards to appropriate retail margins that could be charged to selected customers in one Indian jurisdiction. Engagement involved review of case studies of electricity retail margins around the world, including the US, UK, and Australia. In addition, retail margins in other industries were reviewed, along with the progression of margins as an industry progresses from infancy to maturity
- ***institutional development for IPP promotion:*** contributed to Indian private power promotion efforts through technical assistance program to state electricity boards, central government agencies, and private firms, with particular emphasis on role of PURPA in creating US IPP industry
- ***bagasse cogeneration:*** worked extensively with Indian sugar mills, equipment suppliers, government investment promotion agencies, and state electricity boards to develop cost-effective targeted loan and technical assistance program to promote bagasse cogeneration

- ***barriers to introduction of new coal combustion technologies in emerging markets:*** served as liaison between India's National Thermal Power Corporation (NTPC) and US research institutions to assess ways to adapt US coal combustion technologies to Indian conditions
- ***recommendations for next Scheme of Control in Hong Kong:*** worked with the Hong Kong government to develop a series of recommendations regarding appropriate allowed returns, calculation of asset base, prevention of over-investment, and rate stability
- ***lessons from North American experience for Chinese regulators and grid companies:*** for a set of Chinese state-owned companies, including grid operators, the nuclear operating company, and provincial power companies, London Economics International LLC prepared a series of detailed briefings on developments in electricity market design worldwide, with a particular emphasis on lessons from the North American experience. This experience was then used to highlight the various alternatives for market design in China, and the potential outcomes
- ***implications of restructuring the Japanese power sector:*** for a major Japanese development bank, we analyzed the impact of proposed reforms on a Japanese transmission and generation company, including the potential for stranded costs, opportunities for expansion of transmission, and future tariff setting regimes. The engagement included extensive training of the development bank's staff, as well as the creation of a working model of the Japanese power sector
- ***preparing appropriate framework for private investment in Romanian distribution sector:*** on behalf of a private client, worked with Romanian regulators to develop a consensus on approaches to capital recovery, PBR application, performance standards, supply cost-pass through, and cost of capital. These elements served as preconditions for the private investor's participation in the privatization process
- ***arguments for retaining vertical integration:*** for large French utility, reviewed cases worldwide in which during liberalization incumbents were allowed to remain active across the value chain, including retail. Our work included an assessment of the minimum competition enhancing measures regulators may require in order for the utility to continue operating in all or most of its traditional supply chain activities
- ***implications of performance based ratemaking (PBR) in the Caribbean:*** for a privately owned integrated electric company based on a well developed Caribbean island, directed strategic analysis of implications of PBR, suggested approach to regulators, and provided indicative benchmarking analysis
- ***review of stranded cost settlement and default supply pricing:*** prepared support for regulatory filing in Pennsylvania assessing benefits to customers from a proposal to extend recovery period for competitive transition charge while extending fixing price for default supply
- ***assessment of changes in market power for a FERC Section 203 filing:*** in connection with a proposed combination of generation portfolios, developed testimony concerning the change in market concentration as a result of the transaction, including an assessment of changes in HHIs under various market definitions
- ***review of durability of gas franchises in the face of competition:*** reviewed state regulator decisions and FERC rulings regarding sanctity of natural gas distribution franchises, assessed relevance in the face of deregulation of gas markets

- ***market response to tax credit:*** performed in-depth analysis of impact of Section 29 tax credit for non-conventional fuels production on supply and price response in US southwestern gas markets
- ***economic efficiency effects of retail market design:*** for major US electricity retailer, analyzed various forms of retail electricity competition and default service parameters and compared them to retail/wholesale structure in other industries to determine welfare effects
- ***assessed potential cost of Ontario Green Energy Act:*** explored costs of Green Energy Act, including feed in tariff provisions, grid connection funding, institutional development, loss of local control, and stakeholder mandates
- ***design of incentive rate structure for Alberta utility:*** for a large metropolitan Alberta utility, A.J. advised on design of a proposed incentive based rate structure, including a multi-year term, operating cost incentive structure, and earnings sharing mechanism. Deliverables aided in development of regulatory filings and included testimony before the Alberta Utilities Board
- ***critiquing and improving electricity market structure in Alberta:*** for market institutions and regulators in the Canadian province of Alberta, performed extensive analysis of current industry market structure, including role of Power Pool, Transmission Administrator, Market Surveillance Administrator, the Scheduling Coordinator, and the Balancing Pool. Directed detailed analysis of market power issues associated with divestiture of specific assets and advised on particular market rules to ameliorate strategic behavior
- ***recommendations regarding market power mitigation and retail market design:*** in two separate engagements, advised the Government of Alberta on alternatives for rate designs for small customers and on measures to monitor, measure, and ameliorate market power; both engagements included extensive modeling of Alberta wholesale market and of retail supply tariffs
- ***evaluation of rates across Canada:*** reviewed rates charged to final consumers across Canada and identified distortions in rate design across provinces; performed modeling to adjust for distortions; developed appropriate calculations to appropriately compare rates across jurisdictions
- ***resource adequacy mechanisms for Alberta:*** worked with generators association to assess alternative approaches to assuring resource adequacy. Reviewed mechanisms for capacity and default supply procurement worldwide, developed alternatives for Alberta, and engaged in intensive stakeholder consultation
- ***strategic implications of US deregulation:*** performed in-depth study of the impact of unbundling in the US on the fundamental economics of the electric power industry at all points on the value chain; identified regional investment opportunities congruent with these dynamics
- ***Regulatory review of power markets for Chilean client:*** at the request of a major Chilean generating company, LEI performed a detailed review of the regulatory regimes of four restructured power markets (California, Colombia, Nord Pool, and Spain), as well as an analysis of the current Chilean regulatory regime and the changes to that regime that the regulator has proposed. The review addressed the positions of all stakeholders, with a particular focus on the implications of various types of market design on generators

Electricity and Natural Gas Asset Valuation and Transaction Advisory Work

- ***led Alberta performance review:*** LEI was engaged to perform an assessment of the Alberta Energy Framework, which encompasses the wholesale generation market, retail market, agencies, transmission planning, access and distribution, as well as the operations of the Alberta Interconnected Electricity System. The analysis included both qualitative and quantitative components
- ***conducted overview of hydro-dominated market:*** LEI was hired 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 details 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.
- ***evaluated peaker units in New England:*** London Economics International LLC (“LEI”) was retained to evaluate the economics of constructing peaking units in two possible existing New England hydro facilities. Specifically, LEI conducted an analysis on existing peaker technologies, the permits required, and determined how much investment would be justified to make the project economic.
- ***evaluated cost economics of installing energy storage technologies at existing hydro power plants in Massachusetts and New York:*** The analysis was conducted in three phases – phase 1 consisted of literature reviews and primary information collection (from manufacturers and service providers) on the available types of energy storage technologies and associated fixed and variable costs. Phase 2 consisted of an economic cost-benefit analysis of the least cost storage technologies to understand the viability of the investment. Phase 3 consisted of developing comprehensive criteria for selecting the energy storage manufacturer/service provider and presenting implementation recommendations.
- ***conducted PJM price forecasting:*** London Economics International LLC (“LEI”) was retained to provide forecasted energy and capacity prices as well as supply curves for a plant located in PJM’s SWMAAC region
- ***led Ontario gas LDC performance-based ratemaking project:*** LEI was engaged by Union Gas to review Union’s proposed 2014 to 2018 incentive ratemaking (“IR”) plan as presented to stakeholders on April 29th, 2013 and to examine case studies of approaches to IR applied to other North American gas distribution utilities. In the case study analysis, Union particularly requested LEI to examine approaches to a set list of ratemaking parameters: productivity and X-factor trends, alternative approaches to designing an I-X framework, approaches to establishing inflation factors, approaches in other jurisdictions to applying an Earnings Sharing Mechanism (“ESM”), use of capital trackers for unknown costs, appropriateness of deferral accounts for unaccounted-for gas (“UFG”), and service quality indicators (“SQIs”) and how they are measured. LEI was subsequently requested by Union to provide comments on Union’s draft Settlement Agreement
- ***market briefing on renewables in El Salvador:*** LEI was engaged by a private equity firm focused on small-scale renewable energy projects considering expanding into South America to develop a market briefing on El Salvador, focused on the challenges and opportunities in developing small hydro projects in the country

- ***cost benefits analysis of US transmission line:*** for a utility in the northeastern US, LEI prepared a cost-benefit analysis of a proposed transmission line with the potential to change existing market arrangements. In the analysis, LEI developed a base case and multiple project cases based on different configurations of the transmission project. Using its proprietary modeling tool, POOLMod, LEI simulated energy and capacity prices in each configuration over a 15-year timeframe, and compared the price differences against various cost allocation scenarios for the transmission line's construction. LEI also tested the statistical significance of the project case results against the base case results, and conducted further analysis on the economic effects of additional renewable generation projects that construction of the transmission line would make possible
- ***review of RRO in Alberta:*** London Economics International LLC ("LEI") was asked by ENMAX Energy Corporation ("EEC") to review EEC's request for continuation of the practice of earning a fixed margin associated with expenses incurred as a result of operation of the Regulated Rate Option ("RRO"). For the client, LEI reviewed the settled practice in Alberta, investigated the risk of operating the RRO, and calculated an indicative range of margin for EEC
- ***review of risk management practices:*** LEI was engaged by the client to review its risk management practices and provide meaningful insights with regards to the risk management related issues. Analysis included quantification of the magnitude and probability of risks being faced, as well as research into the best practices of other similar organizations
- ***conducted Independent Evaluation review:*** LEI provided advisory services to assist the OPA in evaluations of applications made to the Aboriginal Renewable Energy Fund ("AREF") and the Aboriginal Transmission Fund ("ATF"). LEI provided advice and analysis related to the technical, financial and regulatory viability of each proposed project
- ***conducted a report on net metering programs in New Hampshire and New York:*** for a private equity power sector investor, LEI conducted a report on net metering programs to determine if the client's facilities would qualify. Project work included determining load at the sites, examination of net metering in the applicable regions, assessment of potential solar installation, exploration of installation options to determine which would be most suitable, and analyzing potential returns
- ***assessment of small hydro properties:*** as part of a retainer agreement with a growing private equity firm focused on the roll-up of small hydro properties, LEI performed a variety of supporting activities, including examination of forward markets, review of PPAs, assessment of renewable energy policies, and strategic analysis
- ***review of North American hydro assets:*** LEI was engaged by a large Canadian hydro generator to evaluate the potential renewable premium associated with its hydro assets in North America. LEI developed an economic model to project legacy Renewable Energy Certificate ("REC") prices in New York and New England. LEI also provided alternative methodologies such as projecting the premium based on forecasted carbon allowance prices and analyzing potential sales to large corporations on a voluntary basis
- ***analyzed current and future dynamics in the British Columbia power markets for of British Columbia power producers:*** topics analyzed included costs of independent power producers ("IPPs") relative to BC Hydro, uncertainty around future demand levels in BC, implications of moving away from use of Critical Water Year analysis in planning, risks and uncertainties regarding import availability, and the overall macroeconomic contributions of IPPs. LEI also analyzed the provincial government's Review of BC Hydro and provided an assessment

- ***valuation of distribution company in Bolivia:*** LEI provided inputs into the valuation of a Bolivian distribution company, including developing the cost of capital; assessing demand, cost, and tariff forecasts; and reviewing the overall cash flow model. LEI also reviewed the company's historical performance relative to efficiency and performance targets
- ***wrote paper on investments by electric and natural gas utilities:*** LEI authored a paper on the successes and failures associated with international investment by electric and natural gas utilities for a major Japanese utility. The paper focused on the activities of over forty companies, both within North America and internationally
- ***European power market analysis:*** LEI worked with one of North America's largest independent operator of power generation facilities to develop a comprehensive analysis of central European power markets including price forecasts and renewable energy policies. As part of its client's efforts to acquire a portfolio of hydroelectric power generating facilities, LEI's team developed a medium-term price forecast, stress tested critical assumptions, and provided detailed insight into federal and state renewable energy policies
- ***developed several forecasts of the long-term Alberta electricity power pool prices (2010 to 2030) based on different market parameters and build decisions:*** the forecast also made special note of the effect on the market, if any, of the following conditions: (i) greenhouse gas legislation; (ii) increase in unconventional (shale) natural gas production; (iii) effect of the enactment of Bill 50; and (iv) effect on the market by external jurisdictions
- ***market analysis for a client interested in purchasing a portfolio of global generation assets:*** in this project, the LEI team, led by AJ, provided a market analysis of California, Mexico, and the Philippines. This market analysis included the following aspects: description of portfolio assets in the jurisdiction, supply/demand balance in the jurisdiction, regulatory framework, contract description and impact of competition on specific portfolio assets in the jurisdiction, indicative position of target asset on supply curve presently and in the future, impact of climate change and other environmental regulations, observations from material in dataroom, review of pool price projections, and remarks about the jurisdiction. In addition, LEI performed a 20-year price forecast for these markets, which was delivered in a spreadsheet form and incorporated into the management presentation
- ***review of business plans for hydrokinetics technology company:*** for start up hydrokinetics technology company, LEI reviewed business plans and applicability of technology worldwide. Tasks included commenting on strategic plan, advising board members on the evolution of renewable energy markets worldwide, and assessing US Federal Energy Regulatory Commission policies towards hydrokinetic projects
- ***due diligence and valuation of engineering consulting firm:*** for a Middle Eastern investment fund, A.J. led the evaluation of the acquisition of an engineering consulting firm with offices in the US, Europe, and the Middle East focused on the power sector; the project included creation of a pro forma for the business, evaluation of business prospects and strategy, and an examination of the relevant economic conditions and their impact on value
- ***assessment of plant pro formas and underlying market environment in six Asian countries:*** for leveraged buyout of major global IPP developer, assessed plant financial models, state of reform efforts, and potential for unbundling in Bangladesh, China, India, Philippines, Thailand, and Turkey
- ***valuation of Singapore generating asset:*** on behalf of a large Asian generating company, provided revenue forecasts from spot, retail, and vesting contracts for successful acquisition

of Singapore generator. Analysis included review of repowering options, assessment of regulatory evolution, assessing the relevant cost of capital, and potential for strategic behavior; A.J. later performed a similar exercise for a second Asian generating company also seeking to purchase a similar set of assets in Singapore, as well as subsequently assisting in analysis associated with refinancing of the acquisition performed by initial client

- ***modeling future Japanese electricity market dynamics:*** for a leading Japanese financial institution, led workshop and directed the creation of an interactive model of the Japanese electric power sector. Issues addressed included quantification of plant asset values under various market scenarios, an assessment of the potential for stranded costs, review of debt coverage ratios, and exploration of the evolution of transmission assets
- ***advised Japanese company on potential US power sector acquisitions:*** reviewed project economics for multiple acquisition targets of Japanese investor. Tasks included providing long term revenue forecasts, reviewing motivations of sellers, providing insights on the associated market, and examining the role of hedge funds and private equity
- ***examination of markets and generation asset values in Mexico, Philippines, and California:*** assisted Asian IPP in assessing generating assets in Mexico and Philippines, as well as export potential from Mexican plants to the US; mandate included developing long run marginal cost forecasts for Philippines and Mexico, and providing detailed dispatch modeling of the California market
- ***valuation of generation and distribution assets in Philippines and the Caribbean:*** provided detailed analysis of regulatory trends in the Philippines and in selected Caribbean countries. Used regulatory filings, PPAs, and public information to develop a value for generation and distribution assets in these markets. Advised potential buyer on relative risk in each country examined, including country risk, regulatory risk, and fuel supply and load growth issues
- ***power price forecast for Balkans:*** to support potential bid to acquire nuclear station in Bulgaria, led team forecasting revenues from future spot power market sales. Issues included treatment of carbon emission credits, extent of regional integration, and availability of existing transmission capacity
- ***revenue forecast and financing advisory for renewables acquisition:*** for newly established private equity firm, managed acquisition process for small hydro and biomass site. Process included revenue forecasting, negotiating term sheets with banks, obtaining quotes for power purchase agreements, reviewing operating agreements, and overseeing all aspects of transaction process
- ***prices for merchant generators and IPPs:*** provided expert opinion on the extent to which value of a generating station could change over a 12 to 18 month period, based on historical analysis of price changes for individual generation assets as well as for generation asset portfolios
- ***biomass investment evaluation:*** on behalf of growing private equity investor, performed extensive analysis of economics of restart of several biomass plants in California and elsewhere. Tasks included PPA review, examination of permits, assisting in arranging financing, and examination of California market dynamics
- ***advised on purchase of small hydro station:*** for a newly established hydro-focused private equity investor, valued and performed regulatory review associated with successful purchase of a small hydro facility in Maine. Tasks including creating pro forma, reviewing material

contracts, negotiating purchase and sale agreement, hiring operator, and monitoring ongoing performance

- ***bid for New York City gas and oil fired stations:*** for a major financial institution, A.J. led a team of analysts in examining potential future revenues for a portfolio of peaking plants in New York City. Assignment included using proprietary models to forecast future capacity and energy revenues, and the application of real option techniques to determine value of plant flexibility
- ***bid for PJM coal-fired power station:*** worked closely with private equity fund in creating deal team, preparing first round bid, and valuation of facility, including coal supply, environmental compliance, site options, and forecast of future revenues; helped to develop second round bid, including assisting in arranging financing and risk management
- ***collateralized debt obligations ("CDOs"):*** led projects associated with detailed statistical analysis of the underlying economics of CDOs associated with distressed debt in the power sector, and with examining whether such a CDO could have been launched in the wake of the Enron collapse
- ***valuation of New England based generation portfolio:*** worked with potential acquirer of New England's largest generation portfolio to determine the costs of ongoing obligations associated with the portfolio, provide an understanding of long term market dynamics, and assess value of overall portfolio, including revenue forecasts and review of market rules
- ***valuation of integrated IOUs:*** coordinated evaluation effort for acquisition of Southeastern US utility and of Ontario municipal electric utility; tasks included assessment of impact of PBR, calculation of difference in profits from generation portfolio under ratebase versus in open market, and analysis of ratebase settlement
- ***valuation and regulation of LNG facilities:*** assessed potential for combination of strategically situated LNG facility with US wholesale power marketer; for separate client, advised on third party access requirements for LNG facilities in the US and relevance to potential regulatory changes in Japan
- ***assessment of value of coal station contracts circa year 2000:*** developed analysis of value of contracts to bear costs and benefits associated with output from coal fired power stations in Alberta. Engagement involved considering only information known as of 2000, for inclusion in tax litigation case. Created pro forma valuation of the contracts as of 2000, including forecast costs and revenues, as well as opining on the appropriate cost of capital to be used
- ***revenues to wind generators in Alberta:*** A.J. led the examination of merchant revenues to a portfolio of existing and under construction wind generators in the province of Alberta. Tasks included review of market design issues, 20 year scenario analysis for merchant revenues, review of contract terms and conditions, and an examination of the potential for additional revenues from the sale of emissions reduction credits and renewable energy certificates. Deliverables included market study supporting issuance of income trust units
- ***assessment of role of peaking plant in Ontario power sector:*** for Ontario government body, performed extensive scenario analysis to determine extent to which peaking plant should be a part of future procurement plans in the province; this analysis included assessment of revenues from ancillary services and of optionality
- ***developed price trends, in conjunction with the valuation of several Colombian power plants:*** LEI also provided an evaluation of the Colombian market, an overview of modeling

methodologies and assumptions, and modeling results. The modeling results included forecast spot market prices, plant dispatch and revenues (energy and capacity), under a variety of scenarios

- ***conducted tariff review for Ente Nacional Regulador de la Electricidad ("ENRE"):*** the Argentine regulatory authority for the electricity sector (ENRE) awarded a contract for a tariff review of Edenor, a large utility serving the northern portion of Buenos Aires to a consortium led by LEI. The engagement entailed evaluating the performance of Edenor in the 1992-2002 tariff period; advising ENRE on international best-practice design of distribution tariffs; proposing a tariff setting methodology for the 2002-2007 tariff period; providing technical assistance in the analysis of information presented to ENRE by Edenor; proposing tariffs for the 2002-2007 tariff period; and assisting ENRE during public hearings on the proposed tariffs. The consortium proposed that tariffs be set via an RPI-X approach employing Data Envelopment Analysis (DEA) for establishment of the X-factor
- ***revenue forecasting in Nicaragua:*** LEI developed revenue forecasts for two generating companies (GeCsa and GeOsa) being auctioned by the Nicaraguan government as part of the privatization of the country's electric power industry. The revenue forecasting was conducted in three stages: a production cost-based spot price and dispatch forecasting stage, a contracts valuation stage, and a Monte Carlo Simulation stage. Out Monte Carlo simulation quantified the impacts of hydrological and fuel price variation on the values GeCsa and GeOsa
- ***advised on bid strategy for Mexican IPP:*** LEI assisted a large foreign utility in its bid strategy for acquisition of generating assets in international jurisdictions (across North America, Europe, and Asia). The LEI team led the market analysis for assets located in Mexico; more specifically, LEI analyzed a series of macroeconomic risks (including political, economic, and regulatory risks) likely to impact operations of the assets in the long run, performed a full due diligence review of the targeted assets, and developed forecast of the Mexican wholesale spot energy prices in order to determine future profitability of the assets.

Power, Gas, and Infrastructure Sector Business Development and Strategy

- ***conducted workshop on generation reliability standard review in Malaysia:*** LEI held a two-day workshop on Generation Reliability Standard Review Seminar for TNB in Kuala Lumpur, Malaysia. The topics included: Malaysia reliability standard policy overview, jurisdiction review on reliability indices and benchmarking Malaysia's reliability standard against other countries, inter-play between government agencies in formulating the reliability standard, lessons learned from other countries, incorporating renewable energy, interconnection and distributed generation in calculating reliability indices, input parameter to derive the value of reliability indices, and lesson learned from LOLE studies from other jurisdictions.
- ***performed a peer-group analysis of Independent Power Producers ("IPPs") in the US market:*** LEI presented research to Osaka Gas with insights on the key economic, financial and strategic factors contributing to growth of mid-sized companies in the US merchant generation market. LEI identified nine categories of IPPs in the US merchant market and defined a subset of companies to be considered as the peer-group of Osaka Gas. For the peer-group, LEI reviewed key success criteria of each company including business focus, leadership, growth strategy and financial performance. LEI presented three peer-group companies as case studies to highlight examples of successful players in the US IPP market. Overall, LEI highlighted the implications that current market trends and key success factors of Osaka's peer-group would have on the company's future growth strategy in the US market.

- ***conducted water pricing in California:*** London Economics International LLC (“LEI”) was retained to conduct a 30-year price curve for Metropolitan Water District of Southern California (“MET Water”) in relation to a potential acquisition of a proposed desalination plant in California. The desalination plant’s water rate specified in the draft Term Sheet of the Water Purchase Agreement is based on MET Water’s prices plus avoidable charge, subsidy, and a premium. LEI reviewed the regulatory arrangements of MET Water, supply-demand dynamics in Southern California, and water pricing mechanisms used by MET Water. LEI also assessed the different key drivers for each component of the MET Water price. Lastly, LEI created a cost of service model and projected the MET Water prices for the next 30 years.
- ***study on transmission and distribution:*** LEI collaborated with StratOrg, 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.
- ***analyzed cost implications of Ontario’s Green Energy Act:*** on behalf of the Official Opposition in Ontario, analyzed the cost implications of the government proposed 2009 Green Energy Act. This included costing of the feed in tariff program, interconnection costs, conservation and demand management initiatives and the implementation of the smart grid. The company presented key results in a press conference
- ***advisory services on the development of a 75 MW hydroelectric power plant in Cameroon:*** under a USTDA contract, AJ Goulding acted as a Senior Energy Market Specialist in the LEI portion of the work for a consortium to provide financial and technical advisory assistance to the Ministry of Energy and Water Resources of the Government of Cameroon with respect to the development of a 75 MW hydroelectric power plant at Bini à Warak. Specific tasks included review of Cameroon’s existing regulatory system, regional market demand analysis and assessment of developmental impact of the project
- ***provided a briefing for Alberta's Minister of Energy:*** Briefings consisted of two 90 minute presentations – the first was a review of the Alberta Retail Market, and the second was a wholesale market review of ERCOT, Australia, Singapore, UK and Ontario
- ***business development opportunities in India:*** for UK electricity and mining conglomerate, provided detailed assessment of opportunities in construction of integrated mining and mine-mouth power stations and in distribution of electricity
- ***assessment of US natural gas storage business:*** for a large Japanese gas utility, examined trends in regulation and investment in the US natural gas storage business. Engagement included comparison of natural gas storage business risks to that of IPP investment
- ***European renewables investment strategy:*** on behalf of a global power and real estate investment company, reviewed policies towards renewable energy in Europe and individual European companies, as well as available assets, sites, and investment climate
- ***distressed asset acquisition strategy:*** advised a major Japanese utility on entry strategies to the US market, including performing a workshop on due diligence, US regional market analysis, and asset valuation; arranging for introductions to major asset sellers, potential

investment partners, and advisors; and creating a screening methodology and database of potential acquisition targets

- ***unbundling of French state-owned vertically integrated monopoly***: worked with leading French electricity generator and supplier to examine how to create independent profit and loss statement for its generation assets, benchmark performance against expectations, and separate revenues from plant operations from those gained through trading
- ***renewables value chain investment analysis***: for Dutch foundation based in Switzerland, examined macro trends associated with renewable energy in several major global economies, including the global supply chain from component manufacturers to installation to operation. Objective was to determine where on the renewables value chain the most profitable opportunities could be found
- ***workshop on performance-based ratemaking strategy***: for first stand-alone transmission company in North America, conducted day long workshop on issues associated with PBR, including the types of PBR and which one is most appropriate for what type of company, the sources of efficiency gains observed in other transmission companies worldwide, and the impact of performance standards on profitability and flexibility
- ***global generation investment strategy***: for a major Canadian generation company, used modern portfolio theory to identify combination of asset classes and geographic locations which would result in optimal risk-reward combination for generator given its core competencies. Deliverables included interactive model to be used by generator staff on an ongoing basis
- ***development of regulatory and financing strategy for transco***: for first stand-alone transmission company in North America, evaluated key transaction parameters, assessed allowed ROE, proposed strategy for attaining favorable incentive rates, and helped to identify potential cost savings
- ***impact of Ontario market changes on industrial consumers***: for association of large power consumers in Ontario, assessed market trends and future entry and exit scenarios to determine long term price dynamics in the face of changes in government deregulation policies

PUBLICATIONS:

Goulding, A.J. "A New Blueprint for Ontario's Electricity Market." C.D. Howe Institute. Commentary No. 389. September 2013.

Goulding, A.J. and Serkan Bahçeci. "Stand-by rate design: Current issues and possible innovations." *Electricity Journal*, June 2007, pp 87 – 96.

Goulding, A.J. and Bridgett Neely. "Picture of a Stalled Competitive Model" *Public Utilities Fortnightly*, February 2005, pp 35 - 42.

Goulding, A.J. and Bridgett Neely. "Acceding to Succeed" *Public Utilities Fortnightly*, July 2004.

Goulding, A.J. "Let's Get This Party Started: Why Ontario needs a competitive market" *Public Utilities Fortnightly*, May 2004, pp 16 - 20.

Goulding, A.J. and Nazli Z. Uludere. "Uncovering the *true value* in merchant generation" *Electricity Journal*, May 2004, pp 49-58.

- Goulding, A.J. "On the Brink: Avoiding a Canadian California" *Public Utilities Fortnightly*, February 5, 2003.
- Goulding, A.J., Julia Frayer, Jeffrey Waller. "X Marks the Spot: How UK Utilities Have Fared Under Performance-Based Ratemaking" *Public Utilities Fortnightly*, July 15, 2001.
- Goulding, A.J., Julia Frayer, Nazli Z. Uludere. "Dancing with Goliath: Prospects After the Breakup of Ontario Hydro" *Public Utilities Fortnightly*, March 1, 2001.
- Goulding, A.J., Carlos Rufin, and Greg Swinand. "Role of Vibrant Retail Electricity Markets in Assuring that Wholesale Power Markets Operate Effectively." *Electricity Journal*, December 1999.
- Adamson, Seabron and A.J. Goulding. "The ABCs of Market Power Mitigation: Use of Auctioned Biddable Contracts to Enhance Competition in Generation Markets." *Electricity Journal*, March 1999.
- Goulding, A.J. "Retreating from the Commanding Heights: Privatization in an Indian Context." Columbia University: *Journal of International Affairs*, Winter 1997, pp. 581-612.
- Hass, Mark R. and A.J. Goulding. "Impact of Section 29 Tax Credits on Unconventional Gas Development and Gas Markets." Society of Petroleum Engineers: SPE 24889, presented at 67th Annual Technical Conference, Washington, DC, October 6, 1992.

SPEAKING ENGAGEMENTS:

- "Ontario's Electricity Sector: Does the Current Institutional Framework Serve the Public Interest? Is it Time for Ontario to Consider a Fundamental Redesign?"* Discussion Leader, Northwind Professional Institute 11th Annual Electricity Invitational Forum, Langdon Hall, Cambridge, Ontario, Canada, January 30th, 2015.
- "What's Next for Ontario's Electricity Market?"* Panelist, C.D. Howe Institute Roundtable, Toronto, Ontario, Canada, September 16th, 2014.
- "Prices and Costs, Why Rates Don't Tell the Whole Story"* Speaker, Making Markets Work Symposium – Manning Centre, Calgary, Alberta, Canada, June 25th, 2014.
- "Examining the Future Structure of Ontario's Electricity Market: Should Ontario Incorporate a Capacity Market or Alternative Structural Framework?"* Panelist, Ontario Power Conference, Toronto, Ontario, Canada, April 15th, 2014.
- "Electricity Prices – Economics, Public Policy, Technologies and Affordability"* Panelist, CCRE Energy Leaders Roundtable, Hockley Valley Resort, Orangeville, Ontario, Canada, March 27th, 2014.
- "Priorities for enhancing Ontario's electricity market: What direction forward?"* Panelist, APPrO, Toronto, Ontario, Canada, November 20th, 2013.
- "Evolving Regulation in Ontario: Best Practices from Other Jurisdictions"* Panelist, Ontario Energy Association's ENERGYCONFERENCE13, Toronto, Ontario, Canada, September 11th, 2013.

"Points to consider when valuing hydro in the US" Speaker, HydroVision 2013, Denver, Colorado, US, July 26th, 2013.

"Pricing Power in Ontario: Perspectives and Competitive Analysis on the Future Direction of Ontario Electricity Rates" Panelist, Ontario Power, Toronto, Ontario, Canada, April 17th, 2013.

"Why Alberta is Still Standing" Panelist, Independent Power Producers Society of Alberta's 19th Annual Conference – Last Market Standing?, Alberta, Canada, March 11th, 2013.

"Market Evolution in the context of the EMF and the post-election environment" Panel Moderator, Association of Power Producers of Ontario, Toronto, Ontario, Canada, November 16th, 2011.

"Green Energy Economics" Panelist, Electricity Distributors Association's ENERCOM, Toronto, Ontario, Canada, March 30th, 2011.

"Projected Supply-Demand Balance in Ontario: A Call to Inaction" Speaker, APPrO, Toronto, Ontario, Canada, November 18th, 2010.

"Changes in electricity policy: what will it cost?" Speaker, 2010 Ontario Energy Association Annual Conference, Niagara Falls, Ontario, Canada, September 21st, 2010.

"Energy Infrastructure Spending" Debate Panelist, Canadian Association of Members of Public Utility Tribunals (CAMPUT), Montreal, Ontario, Canada, May 5th, 2010.

"Strategic implications of the Ontario Green Energy Act" Presentation to Ontario Energy Association Green Energy and Conservation Joint Sector Committee, Toronto, Ontario, Canada, June 24th, 2009.

"Strategic implications of evolution of North American utilities sector in response to environmental initiatives" Presentation to Mitsui Canada Leadership Forum, Toronto, Ontario, Canada, June 17th, 2009.

"Making retail competition work in electricity" Speaker, Illinois Commerce Commission Retail Competition Workshop, Chicago, Illinois, US, October 2nd, 2006.

"Gods and monsters: the role of the Ontario Power Authority in Ontario's hybrid market" Speaker, Ontario Energy Association annual conference, Niagara Falls, Ontario, Canada, September 14th, 2005.

"Transmission investment in today's power markets: key considerations" Presentation to the Wyoming Infrastructure Authority, Casper, Wyoming, US, May 26th, 2005.

"The true cost of power: comparing rates for power across Canada" Speaker, Independent Power Producers Society of Alberta conference, Banff, Alberta, Canada, March 15th, 2005.

"Key considerations with regards to resource adequacy mechanisms in Alberta." Speaker, Independent Power Producers Society of Alberta luncheon, Calgary, Alberta, Canada, November 3rd, 2004.

"Finding the silver lining: investment opportunities in Canadian power markets" Speaker, 2004 Canada Power Conference, Toronto, Ontario, Canada, September 30th, 2004.

- "Adding value for the shareholder: Managing small utilities in a period of regulatory change."* Speaker, Ontario Electricity Distributors Association, London, Ontario, Canada, June 8th, 2004.
- "Case studies in electricity market design: learning from experience."* Guest lecturer, Columbia University Center for Energy and Marine Policy graduate program, International Energy Systems and Business Structures class, New York, New York, US, April 8th, 2003.
- "'The grass is always greener' vs. 'All of your eggs in one basket': investment outlook for California and foreign markets."* Speaker, Platt's Global Power Markets Conference, New Orleans, Louisiana, US, March 31st, 2003.
- "Transmission congestion, valuation, and investment issues in the region surrounding Ontario."* Speaker, Canadian Institute conference on Inter-jurisdictional Power Transactions, Toronto, Ontario, Canada, April 8th, 2002.
- "Update on new generation development in Alberta."* Speaker, Canadian Institute Conference on Managing Electricity Price Volatility in Alberta, Calgary, Alberta, Canada, February 27th, 2002.
- "The Alberta market structure and implications of structural change."* Speaker, Insight Conferences Alberta Power Summit, Calgary, Alberta, Canada, February 22nd, 2002.
- "Implications for developers of key aspects of competing Midwest ISO designs."* Speaker, INFOCAST conference on Maximizing the Value of QFs and IPPs, Orlando, Florida, US, February 1st, 2001.
- "Risk and rewards from PBR for US utilities: lessons from overseas."* Speaker, UTECH 2000 conference, St. Petersburg, Florida, US, November 30th, 2000.
- "Dancing with Goliath: increasing competition in Ontario wholesale generation market."* Speaker, Canadian Independent Power conference, Toronto, Ontario, Canada, November 27th, 2000.
- "Asset valuation in evolving global power markets."* Speaker and case study facilitator, World Bank conference on Emerging Issues in the Power Sector, Washington, DC, US, April 19th-21st, 2000.
- "Overseas exposure: is it worth the risk?"* Speaker at Global Power Markets Conference, organized by Global Power Report and McGraw-Hill, New Orleans, Louisiana, US, April 16th -19th, 2000.
- "Profiting from retail: challenges for MEUs."* Speaker at conference on buying and selling electric utilities in Canada, organized by IBC USA conferences, Toronto, Ontario, Canada, November 15th-17th, 1999.
- "Assessing the US electricity market and evaluating US targets."* Facilitator for workshop on US acquisition opportunities for European energy firms, organized by IIR Limited, London, England, February 9th-11th, 1999.

Curriculum Vitae

Juliana Bruno

Consultant, London Economics International LLC



KEY QUALIFICATIONS:

Juliana is a Consultant at London Economics International LLC (“LEI”), where she provides economic, strategic and financial advice to energy and infrastructure industries. Juliana works closely with a private equity power sector investment client doing business development, providing due diligence support on acquisitions as required, as well as project management for the firm’s greenfield solar development. She also provides ongoing asset management across the firm’s hydro asset portfolio as needed.

She is responsible for cost of capital calculations and analytical support in regulatory matters, valuation of electricity purchase and sales contracts, market forecasts, tolling arrangements, operating and maintenance agreements and fuel supply agreements. Juliana constructs and analyzes financial, economic and statistical models for asset acquisitions and debt and equity issuances and maintains an ongoing review of the electricity and gas markets – specifically the Ontario and north eastern U.S. markets.

She has significant experience in the Ontario wholesale electricity market having worked at Ontario’s Independent Electricity System Operator (“IESO”) for three years prior to joining LEI. There, she was a Market Development Analyst on the Markets team which was responsible for designing, stakeholdering, and implementing Ontario electricity market rule changes, policy directives from the Minister of Energy.

Juliana graduated from the University of Western Ontario with a Bachelor of Management & Organizational Studies degree with a Specialization in Finance and Business Administration in June 2013.

EDUCATION:

Western University, London, ON. B.A. in Business Administration (Finance), 2013.

EMPLOYMENT RECORD:

From: June 2016	To: present
Employer:	<i>London Economics International LLC</i>
	Consultant

From: Jan 2016	To: June 2016
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London Economics International

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Employer: London Economics International LLC
Research Associate

From: 2013 **To:** 2015

Employer: Ontario Independent Electricity System Operator ("IESO")
Large Renewable Procurement Evaluator (Oct 2015 – Dec 2015)
Market Development Analyst (Apr 2014 – Dec 2015)
Market Services Associate (Jul 2013 – Apr 2014)

RECENT PROJECT EXPERIENCE:

The projects briefly described below are typical of the work Juliana Bruno has performed at London Economics International.

Renewables experience

- *environmental considerations in large scale renewable procurements:* Juliana acted as project manager and led a team which composed a report on plausible ways that environmental criteria may be incorporated into a large scale renewables procurement. The report was used by the Ontario Waterpower Association ("OWA") in their discussions with policy makers and in stakeholder discussions on the future of renewables procurement in Ontario.
- *project management for greenfield solar development:* Juliana has been engaged by a private client to act as the project manager for their greenfield solar generation project in Vermont USA. The client has engaged her to provide long-term project management support in the permitting, development, and construction project stages as well as eventual ongoing asset management support once the facility is commercially operable. In addition, the client has also engaged Juliana to provide ad-hoc assistance in the areas of financial modelling, regulatory research and advisory, and asset management support of the client's other small hydro facilities.
- *evaluation of alternative approached to centralized procurement for renewable energy:* Juliana participated in preparing a detailed report for the Alberta Electric System Operator's ("AESO") which assessed five approaches to the centralized competitive procurement of renewable energy as an input to the consideration of options for fulfilling the Alberta government's objective of increasing renewable energy. Those case studies include Australia, California, New York, Ontario, and the United Kingdom.

Ontario and regulatory experience

- *expert report for the York Municipality:* Juliana under the direction of LEI President A.J. Goulding, prepared an expert witness report for the Township of King in the Regional Municipality of York in Ontario Municipal Board Case No. PL130352 which proposed amendments to land use planning which would directly affect a large gas generator. The project involved explaining the role of all levels of Government in power system planning and the nexus between land use planning and regional electricity planning. [OMB Case No. PL130352]

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- ***technical advisor to the Independent Electricity System Operator:*** LEI was engaged by the Ontario IESO as a technical advisor to conduct a price review for Ontario's renewable energy generation standard-offer programs (specifically, the the Feed-In-Tariff ("FIT") and microFIT programs) along with ad-hoc or as-needed analysis and advice provided on the changing role of small DERs. Juliana assisted in the constructing a Levelized Cost of Energy ("LCOE") model and in research and drafting the price review report for the client.
- ***interrogatory requests for a Canadian vertically-integrated utility:*** LEI was retained by a large Canadian vertically-integrated utility to assist with the creation of a comprehensive set of Interrogatory Requests to be submitted by the client in Ontario Energy Board ("OEB") case EB-2015-0275, the IESO's 2016 revenue requirement submission. Juliana 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. [OEB: EB-2015-0275]
- ***conducted assessment of capacity costs of NUGs in Ontario:*** Assisted in providing a high level quantitative and qualitative assessment of the capacity costs associated with Ontario non-utility generators with contracts set to expire over the period 2017 to 2020. The analysis took into consideration the minimum costs that would be considered unavoidable where a facility was to remain operational and therefore capable of delivering energy if called upon.
- ***community gas expansion economics in Ontario:*** Juliana participated in providing a high-level overview report of the funding mechanisms adopted for community expansion projects across North America, and the requirements, if any, placed on an incumbent utility's customers to help fund those expansion projects for new or existing suppliers. This work followed Union Gas Ltd.'s application and pre-filed evidence (EB-2015-0179) submitted to the Ontario Energy Board ("OEB") for expansion of its natural gas distribution network to unserved communities across Ontario.
- ***commentary on the state of transmission and distribution investment in Ontario:*** LEI was engaged by a French consulting firm to provide commentary on the state of transmission and distribution investment in Ontario. This included a brief analysis of the typical drivers of investment in Ontario. Commentary provided by LEI was used by the client to assist on an acquisition.

Finance-related experience

- ***recapitalization of assets for power sector investor:*** For a private equity power sector investor, Juliana worked alongside the client's investment banking team and strategic advisors to assist the client in their recapitalization project. On this project she assisted the team by producing materials for prospective investors, conducted research and data gathering tasks to support investor data room materials, assisted in financial modelling, assisted in growth strategies and maintained oversight of the client's data room.
- ***economic appraisals on bidding for hydro plant acquisitions in New York:*** For a private equity power sector investor, Juliana assisted in conducting due diligence in the bidding process with respect to an acquisition of a 32 MW hydro plant in the New York market by a group of private investors. This project involved conducting economic appraisals,

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coordinating preliminary technical due diligences, working closely with strategic advisors of the private equity investor, and conducting oversight of financial modeling. The analysis included long term fuel and electricity prices, due diligence work, financial modelling, analysis of operating agreements and progress updates for the client.

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