

Michael Parkes
Michael Millar
Ontario Energy Board
2300 Yonge Street, 27th Floor
PO Box 2319
Toronto, ON M4P 1E4

Re: Cost Claim for EB-2021-0246

Dear Mr. Parkes and Mr. Millar:

Please accept our materials submitted via the OEB Portal for our Cost Claim for Chris Neme's work with the IRP Working Group for January 1 - June 30, 2023.

Sincerely,



Mariana Du Brul
Administrative Manager

EB-2021-0246 : 2 : Mariana Du Brul

COST CLAIM NUMBER 1137	SUBMISSION DEADLINE DATE February 09, 2023	CLAIM STATUS Submitted
EB# EB-2021-0246: Initiatives: Policy Dev, Infrastructure and Supply: Ontario Energy Board	OTHER EB#S	PHASE #* 2
INTERVENOR Du Brul, Mariana; +1 (802) 482-4940 finance@energyfuturesgroup.com	INTERVENOR COMPANY* Energy Futures Group, Hinesburg: Corporation	INTERVENOR TYPE Tax Exempt
HST RATE ONTARIO 0.00	EXCHANGE RATE	COUNTRY
HST NUMBER	LATE SUBMISSION ALLOWED No	EXTENSION DEADLINE DATE

PARTICIPANTS

New	Non-Filing Participant First, Last Name	Filing Participant	Participant Total (\$)	Claim Status
No	,	Neme, Chris; +1 (802) 482-5001 x.1 cneme@energyfuturesgroup.com	10,725.00	Submitted

ATTACHMENTS

Attachment	Attachment Date	Participant	Document Type	Claim Type	Import Message
EnergyFuturesGroup_CostClaim_CoverLetter_20230201.pdf EFG EB-2021-0246 Cost Claim 020120231145.pdf			Cover Letter		

TOTAL LEGAL/CONSULTANT/OTHER FEES 10,725.00	TOTAL DISBURSEMENTS 0.00	TOTAL HST 0.00
TOTAL CLAIM 10,725.00	TOTAL AMOUNT AWARDED	
REASON FOR DISALLOWANCE	REASON FOR DISALLOWANCE - 2	REASON FOR DISALLOWANCE - 3

MAKE CHEQUE PAYABLE TO
Energy Futures Group, Inc.

SEND PAYMENT TO ADDRESS
PO Box 587
Hinesburg, VT 05461

ATTENTION

SUBMIT SECTION
I am a representative of the Party. I have examined all of the documentation in support of this cost claim. The costs incurred and time spent are directly related to the Party's participation in the OEB Process referred to above.

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 section 6.05 and 6.09 of the OEB's Practice Direction on Cost Awards.

The information (fees and disbursements) filed in this cost claim is complete and accurate and in accordance with the OEB's Practice Direction for Cost Awards and Appendix A, the Cost Awards Tariff.

SUBMITTED BY
Chris Neme

DATE SUBMITTED
February 01, 2023

Chris Neme**CASE**

EB-2021-0246: Initiatives: Policy
Dev, Infrastructure and Supply: Brul
Ontario Energy Board

COST CLAIM

EB-2021-0246 : 2 : Mariana Du

INTERVENOR NAME

Du Brul, Mariana; +1 (802)
482-4940
finance@energyfuturesgroup.com

PARTICIPANT**CLAIM STATUS**

Submitted

FILING PARTICIPANT

Neme, Chris; +1 (802) 482-5001 x.1
cneme@energyfuturesgroup.com

NEW**PARTICIPANT**

No

NON-FILING**PARTICIPANT F. NAME****NON-FILING****PARTICIPANT L. NAME****SERVICE PROVIDER TYPE**

Consultant

YEAR CALLED TO BAR**COMPLETED YEARS****PRACTICING/YEARS OF****RELEVANT EXPERIENCE**

35

HOURLY RATE

330

CV STATUS (FOR**CONSULTANT/ANALYST)**

CV Provided within Previous 24
Months

LAST CV DATE

February 16, 2022

HST RATE**CHARGED**

0.00

HEARINGS

No

CONSULTATIONS

Yes

DISBURSEMENTS

No

CONSULTATION

<u>Description</u>	<u>Maximum</u> <u>Hours</u>	<u>Hours</u>	<u>Hourly</u> <u>Rate</u>	<u>Sub</u> <u>Total</u>	<u>HST</u> <u>Rate</u>	<u>HST</u>	<u>Total</u>
Consultation							
Meeting #7 (DCF+) - July 5, 2022	4.00	3.00	330	990.00	0.00		990.00
Meeting #9 (DCF+) - August 9, 2022	4.00	3.00	330	990.00	0.00		990.00
Meeting #11 (DCF+) - September 13, 2022	4.00	2.75	330	907.50	0.00		907.50
Meeting #12 - September 27, 2022	4.00	3.00	330	990.00	0.00		990.00
Meeting #13 (DCF+) - October 12, 2022	4.00	2.75	330	907.50	0.00		907.50
Meeting #13 development of presentation on addressing price effects and risk in DCF+ (Chris N. only)	4.00	4.00	330	1,320.00	0.00		1,320.00
Meeting #14 - October 25, 2022	4.00	2.25	330	742.50	0.00		742.50
Meeting #15 (DCF+) - November 8, 2022	4.00	3.00	330	990.00	0.00		990.00
Meeting #16 - November 22, 2022	4.00	3.00	330	990.00	0.00		990.00
Meeting #17 (DCF+) - December 6, 2022	4.00	2.50	330	825.00	0.00		825.00
Individual member discussion with Enbridge - Between July 1, 2022 to December 31, 2022	6.00	3.25	330	1,072.50	0.00		1,072.50
Consultation Total							
Total Legal/Consultant Fees		32.50		10,725.00		0.00	10,725.00

Attachments

<u>Attachment</u>	<u>Document Type</u>	<u>Import Message</u>
EnergyFuturesGroup_CostClaim_Invoice_20230201.pdf	Invoice	
EnergyFuturesGroup_CostClaim_TimeDocket_20230201.pdf	Time Docket	

Hearings, Consultations, Disbursements Attachments

<u>Attachment</u>	<u>Related Disbursement Claim</u>	<u>Document Type</u>	<u>Claim Type</u>	<u>Import Message</u>
EnergyFuturesGroup _CostClaim_Invoice _20230201.pdf		Invoice	Consultations	
EnergyFuturesGroup _CostClaim_TimeDo cket_20230201.pdf		Time Docket	Consultations	

Energy Futures Group, Inc.

PO Box 587
Hinesburg, VT 05461
Phone: (802) 482-5001
Fax: (802) 329-2143



Invoice

TO: Ontario Energy Board
Mike Parkes
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
michael.parkes@oeb.ca

Invoice #: 5625
Job Name: Ontario Gas IRP Working Group
Project Manager: Chris Neme
Invoice Date: 2/1/2023
Invoice Period: 7/1/2022-12/31/2022
Terms: Net 30 Days

Consultant Labor	Job-Phase-Project	Project Description	Rate	Hours	Amount
Chris Neme	1043-00-00	Ontario Gas IRP Working Group	\$330.00	32.50	\$10,725.00
EFG Labor Subtotal:				32.50	\$10,725.00

TOTAL DUE THIS INVOICE:	\$10,725.00 CAD
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Energy Futures Group, Inc.

PO Box 587
Hinesburg, VT 05461
Phone: (802) 482-5001
Fax: (802) 329-2143



Task Description

Invoice #:5625
Job Name: Ontario Gas IRP Working Group
Job Code: 1043
Invoice Period: 7/1/2022-12/31/2022
Consultant: Chris Neme

Date	Phase-Project	Project Description	Hours Task Description
7/5/2022	00-00	Ontario Gas IRP Working Group	3.00 review Guidehouse DCF+ report, IRP working group meeting
8/9/2022	00-00	Ontario Gas IRP Working Group	3.00 Prep for and participate in IRP working group meeting on DCF+ test
9/13/2022	00-00	Ontario Gas IRP Working Group	2.75 Prep for and participate in IRP working group meeting on DCF+
9/27/2022	00-00	Ontario Gas IRP Working Group	3.00 prep for and participate in Gas IRP working group meeting
10/7/2022	00-00	Ontario Gas IRP Working Group	4.00 Call w//Michael Parkes on marginal cost of gas; draft and send slides on DCF+ issues for 10/11 meeting
10/11/2022	00-00	Ontario Gas IRP Working Group	2.75 prep for and participate in Gas IRP Working Group meeting on DCF+
10/25/2022	00-00	Ontario Gas IRP Working Group	2.25 prep for and participate in gas IRP working group meeting
11/8/2022	00-00	Ontario Gas IRP Working Group	3.00 prep for and particiapte in IRP working group meeting
11/22/2022	00-00	Ontario Gas IRP Working Group	2.50 prep for and participate in IRP working group meeting
11/28/2022	00-00	Ontario Gas IRP Working Group	0.50 Assemble and send materials on Illinois input-output modeling of job impacts (to Mike Parkes)
12/6/2022	00-00	Ontario Gas IRP Working Group	2.50 Prep for and participate in IRP working group meeting
12/12/2022	00-00	Ontario Gas IRP Working Group	1.25 call w/Enbridge on DCF+ issues
12/22/2022	00-00	Ontario Gas IRP Working Group	2.00 Prep for and participate in call w/Cara-Lynne Wade on DCF+ issues
TOTAL:			32.50

EB-2021-0246

Energy Future Group, Inc.

Activities between July 1, 2022 to December 31, 2022

ClientShortName	EmployeeShortName	JobDescription	WorkDate	JobID	ServiceHours	Service Rate	Fees	DescriptionOfService	OEB Item Number	OEB Activity
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	7/5/2022	1043	3.00	\$330.00	\$990.00	review Guidehouse DCF+ report, IRP working group meeting	1	Meeting #7
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	8/9/2022	1043	3.00	\$330.00	\$990.00	Prep for and participate in IRP working group meeting on DCF+ test	3	Meeting #9
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	9/13/2022	1043	2.75	\$330.00	\$907.50	Prep for and participate in IRP working group meeting on DCF+	5	Meeting #11
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	9/27/2022	1043	3.00	\$330.00	\$990.00	prep for and participate in Gas IRP working group meeting	6	Meeting #12
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	10/7/2022	1043	4.00	\$330.00	\$1,320.00	Call w//Michael Parkes on marginal cost of gas; draft and send slides on DCF+ issues for 10/11 meeting	8	Develop presentation for Mtg #13
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	10/11/2022	1043	2.75	\$330.00	\$907.50	prep for and participate in Gas IRP Working Group meeting on DCF+	7	Meeting #13
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	10/25/2022	1043	2.25	\$330.00	\$742.50	prep for and participate in gas IRP working group meeting	9	Meeting #14
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	11/8/2022	1043	3.00	\$330.00	\$990.00	prep for and participate in IRP working group meeting	10	Meeting #15
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	11/22/2022	1043	2.50	\$330.00	\$825.00	prep for and participate in IRP working group meeting	11	Meeting #16
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	11/28/2022	1043	0.50	\$330.00	\$165.00	Assemble and send materials on Illinois input-output modeling of job impacts (to Mike Parkes)	11	Follow up on Mtg #16
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	12/6/2022	1043	2.50	\$330.00	\$825.00	Prep for and participate in IRP working group meeting	12	Meeting #17
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	12/12/2022	1043	1.25	\$330.00	\$412.50	call w/Enbridge on DCF+ issues	14	Enbridge discussions
Ontario Energy Board	Chris Neme	Ontario Gas IRP Working Group	12/22/2022	1043	2.00	\$330.00	\$660.00	Prep for and participate in call w/Cara-Lynne Wade on DCF+ issues	14	Enbridge discussions

EB-2021-0246 : 3 : Mariana Du Brul

COST CLAIM NUMBER 1570	SUBMISSION DEADLINE DATE August 21, 2023	CLAIM STATUS Approved by Finance
EB# EB-2021-0246: Initiatives: Policy Dev, Infrastructure and Supply: Ontario Energy Board	OTHER EB#S	PHASE #* 3
INTERVENOR Du Brul, Mariana; +1 (802) 482-4940 finance@energyfuturesgroup.com	INTERVENOR COMPANY* Energy Futures Group, Hinesburg: Corporation	INTERVENOR TYPE Tax Exempt
HST RATE ONTARIO 0.00	EXCHANGE RATE	COUNTRY US
HST NUMBER	LATE SUBMISSION ALLOWED No	EXTENSION DEADLINE DATE

PARTICIPANTS

New	Non-Filing Participant First, Last Name	Filing Participant	Total (\$)	Total Hours	Participant Claim Status
No	,	Neme, Chris; +1 (802) 482-5001 x.1 cneme@energyfuturesgroup .com	8,580.00	26.00	Submitted

ATTACHMENTS

Attachment	Document Type	Import Message
EFG_CostClaim for EB-2021-0246_Jan-June 2023.pdf	Cover Letter	
EFG EB-2021-0246 Cost Claim 082120231105.pdf		

TOTAL LEGAL/CONSULTANT/OTHER FEES 8,580.00	TOTAL DISBURSEMENTS 0.00	TOTAL HST 0.00
TOTAL CLAIM 8,580.00	TOTAL AMOUNT AWARDED	
TOTAL HOURS CLAIMED 26.00	TOTAL HOURS DISALLOWED	
REASON FOR DISALLOWANCE	REASON FOR DISALLOWANCE - 2	REASON FOR DISALLOWANCE - 3

MAKE CHEQUE PAYABLE TO
Energy Futures Group, Inc.

SEND PAYMENT TO ADDRESS
PO Box 587
Hinesburg, VT 05445
USA

ATTENTION

SUBMIT SECTION

I am a representative of the Party. I have examined all of the documentation in support of this cost claim. The costs incurred and time spent are directly related to the Party's participation in the OEB Process referred to above.

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 section 6.05 and 6.09 of the OEB's Practice Direction on Cost Awards.

The information (fees and disbursements) filed in this cost claim is complete and accurate and in accordance with the OEB's Practice Direction for Cost Awards and Appendix A, the Cost Awards Tariff.

SUBMITTED BY
Chris Neme

DATE SUBMITTED
August 21, 2023

CASE

EB-2021-0246: Initiatives: Policy
Dev, Infrastructure and Supply:
Ontario Energy Board

COST CLAIM

EB-2021-0246 : 3 : Mariana
Du Brul

INTERVENOR NAME

Du Brul, Mariana; +1 (802)
482-4940
finance@energyfuturesgroup.
com

**PARTICIPANT
CLAIM STATUS**
Submitted

FILING PARTICIPANT

Neme, Chris; +1 (802) 482-5001
x.1
cneme@energyfuturesgroup.com

**NEW
PARTICIPANT**
No

**NON-FILING
PARTICIPANT F. NAME**

**NON-FILING
PARTICIPANT L. NAME**

SERVICE PROVIDER TYPE*
Consultant

YEAR CALLED TO BAR*

**COMPLETED YEARS
PRACTICING/YEARS OF
RELEVANT EXPERIENCE***
37

HOURLY RATE
330

HST RATE CHARGED*
0.00

**CV STATUS (FOR
CONSULTANT/ANALYST)**
CV Attached

LAST CV DATE
August 21, 2023

**OVERRIDE
HOURLY RATE**
No

HST NUMBER

HEARINGS
No

CONSULTATIONS
Yes

DISBURSEMENTS
No

CONSULTATION

Consultation Hours	Consultations Subtotal (\$)	Consultations Total Tax (\$)	Consultations Total (\$)
26.00	8,580.00	0.00	8,580.00

Description	Maximum Hours	Hours	Hourly Rate	Sub Total	HST Rate	HST	Total
1 Meeting #19 (DCF+) - January 10, 2023	4.00	3.00	330	990.00	0.00		990.00
2 Meeting #20 - January 24, 2023	4.00	3.00	330	990.00	0.00		990.00
3 Meeting #21 (DCF+) - February 7, 2023	4.00	2.00	330	660.00	0.00		660.00
4 Meeting #22 - February 21, 2023	4.00	2.50	330	825.00	0.00		825.00
5 Meeting #23 - March 21, 2023	4.00	3.00	330	990.00	0.00		990.00
6 Meeting #24 - April 18, 2023	4.00	1.50	330	495.00	0.00		495.00
7 Meeting #25 - May 9, 2023	4.00	0.00	330		0.00		
8 Meeting #26 - May 23, 2023	4.00	2.25	330	742.50	0.00		742.50
9 Meeting #27 - June 20, 2023	4.00	2.25	330	742.50	0.00		742.50
10 Member review/comments on various reports - January 1, 2023 to June 30, 2023	12.00	5.25	330	1,732.50	0.00		1,732.50
11 Individual member discussion with EGI - January 1, 2023 to June 30, 2023	6.00	1.25	330	412.50	0.00		412.50
12 Review of EGI's Asset Management Plan - January 1, 2023 to June 30, 2023	12.00		330		0.00		
Total Legal/Consultant Fees		26.00		8,580.00		0.00	8,580.00

Attachments

Attachment	Document Type	Import Message
EnergyFuturesGroup_CostClaim_Invoice_20230816.pdf	Invoice	
EnergyFuturesGroup_CostClaim_TimeDocket_20230816.pdf	Time Docket	
CNeme_CostClaim_CV_2023.pdf	CV	

Hearings, Consultations, Disbursements Attachments

Attachment	Document Type	Claim Type	Import Message
EnergyFuturesGroup_CostClaim_Invoice_20230816.pdf	Invoice	Consultations	
EnergyFuturesGroup_CostClaim_TimeDocket_20230816.pdf	Time Docket	Consultations	
CNeme_CostClaim_CV_2023.pdf	CV	Consultations	

EB-2021-0246

Energy Futures Group, Inc.

Activities between January 1, 2023 and June 30, 2023

JobDescription	EmployeeShortName	WorkDate	ServiceHours	ServiceRate	Fees	DescriptionOfService	OEB Item number	OEB Activity
Ontario Gas IRP Working Group	Chris Neme	1/10/2023	3.00	\$330.00	\$990.00	prep for and participate in IRP Working Group meeting on DCF+	1	Meeting #19
Ontario Gas IRP Working Group	Chris Neme	1/24/2023	3.00	\$330.00	\$990.00	prep for and participate in working group meeting	2	Meeting #20
Ontario Gas IRP Working Group	Chris Neme	2/3/2023	2.00	\$330.00	\$660.00	review and comment on draft DCF+ staff report	10	Review/Comments on reports
Ontario Gas IRP Working Group	Chris Neme	2/6/2023	0.50	\$330.00	\$165.00	call w/Enbridge on DCF+ issues	11	Individual discussion with EG
Ontario Gas IRP Working Group	Chris Neme	2/7/2023	2.00	\$330.00	\$660.00	working group meeting on DCF+ report	3	Meeting #21
Ontario Gas IRP Working Group	Chris Neme	2/21/2023	2.00	\$330.00	\$660.00	prep for and participate in IRP working group meeting	4	Meeting #22
Ontario Gas IRP Working Group	Chris Neme	3/16/2023	0.50	\$330.00	\$165.00	research on examples of community EE programs, send to M.Parkes (follow-up to 2/21 Working Group meeting)	4	Meeting #22
Ontario Gas IRP Working Group	Chris Neme	3/21/2023	3.00	\$330.00	\$990.00	prep for and participate in gas IRP mtg	5	Meeting #23
Ontario Gas IRP Working Group	Chris Neme	4/18/2023	1.50	\$330.00	\$495.00	IRP working group meeting	6	Meeting #24
Ontario Gas IRP Working Group	Chris Neme	5/23/2023	2.25	\$330.00	\$742.50	prep for and participate in Gas IRP working group meeting	8	Meeting #26
Ontario Gas IRP Working Group	Chris Neme	5/25/2023	0.75	\$330.00	\$247.50	research issues, add comments to IRP WG report	10	Review/Comments on reports
Ontario Gas IRP Working Group	Chris Neme	6/19/2023	2.50	\$330.00	\$825.00	Review Enbridge draft Pilots filing, draft and send comments	10	Review/Comments on reports
Ontario Gas IRP Working Group	Chris Neme	6/20/2023	2.25	\$330.00	\$742.50	prep for and participate in WG meeting	9	Meeting #27
Ontario Gas IRP Working Group	Chris Neme	6/28/2023	0.75	\$330.00	\$247.50	Call w/Enbridge on pilot NWA proposals	11	Individual discussion with EG

Energy Futures Group, Inc.

PO Box 587
Hinesburg, VT 05461
Phone: (802) 482-5001
Fax: (802) 329-2143



Invoice

TO: Ontario Energy Board
Mike Parkes
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
michael.parkes@oeb.ca

Invoice #: 5921
Job Name: Ontario Gas IRP Working Group
Project Manager: Chris Neme
Invoice Date: 8/16/2023
Invoice Period: 1/1/2023-6/30/2023
Terms: Net 30 Days

Consultant Labor	Job-Phase-Project	Project Description	Rate	Hours	Amount
Chris Neme	1043-00-00	Ontario Gas IRP Working Group	\$330.00	26.00	\$8,580.00
EFG Labor Subtotal:				26.00	\$8,580.00

TOTAL DUE THIS INVOICE:	\$8,580.00 CAD
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Energy Futures Group, Inc.

PO Box 587
Hinesburg, VT 05461
Phone: (802) 482-5001
Fax: (802) 329-2143



Task Description

Invoice #:5921
Job Name: Ontario Gas IRP Working Group
Job Code: 1043
Invoice Period: 1/1/2023-6/30/2023
Consultant: Chris Neme

Date	Phase-Project	Project Description	Hours Task Description
1/10/2023	00-00	Ontario Gas IRP Working Group	3.00 prep for and particiapte in IRP Working Group meeting on DCF+
1/24/2023	00-00	Ontario Gas IRP Working Group	3.00 prep for and participate in working group meeting
2/3/2023	00-00	Ontario Gas IRP Working Group	2.00 review and comment on draft DCF+ staff report
2/6/2023	00-00	Ontario Gas IRP Working Group	0.50 call w/Enbridge on DCF+ issues
2/7/2023	00-00	Ontario Gas IRP Working Group	2.00 working group meeting on DCF+ report
2/21/2023	00-00	Ontario Gas IRP Working Group	2.00 prep for and participate in IRP working group meeting
3/16/2023	00-00	Ontario Gas IRP Working Group	0.50 research on examples of community EE programs, send to M.Parkes
3/21/2023	00-00	Ontario Gas IRP Working Group	3.00 prep for and participate in gas IRP mtg
4/18/2023	00-00	Ontario Gas IRP Working Group	1.50 IRP working group meeting
5/23/2023	00-00	Ontario Gas IRP Working Group	2.25 prep for and participate in Gas IRP working group meeting
5/25/2023	00-00	Ontario Gas IRP Working Group	0.75 research issues, add comments to IRP WG report
6/19/2023	00-00	Ontario Gas IRP Working Group	2.50 Review Enbridge draft Pilots filing, draft and send comments
6/20/2023	00-00	Ontario Gas IRP Working Group	2.25 prep for and participate in WG meeting
6/28/2023	00-00	Ontario Gas IRP Working Group	0.75 Call w/Enbridge on pilot NWA proposals
TOTAL:			26.00

Professional Summary

Chris specializes in analysis of markets for energy efficiency, demand response, renewable energy and strategic electrification measures, as well as the design and evaluation of programs and policies to promote them. During his 25+ years in the industry, he has worked for energy regulators, utilities, government agencies and advocacy organizations in 30+ states, 7 Canadian provinces and several European countries. He has filed expert witness testimony in 60+ cases before regulatory commissions in 13 different jurisdictions; he has also testified before several state legislatures. Chris has authored numerous reports and papers on clean energy policies and programs, including the National Standard Practice Manual for Benefit Cost Analysis of Distributed Energy Resources (2020), the predecessor NSPM for energy efficiency (2017), and several reports on electric non-wires and gas non-pipe alternatives.

Experience

2010-present: Principal, Energy Futures Group, Hinesburg, VT

1999-2010: Director of Planning & Evaluation, Vermont Energy Investment Corp., Burlington, VT

1993-1999: Senior Analyst, Vermont Energy Investment Corp., Burlington, VT

1992-1993: Energy Consultant, Lawrence Berkeley National Laboratory, Gaborone, Botswana

1986-1991: Senior Policy Analyst, Center for Clean Air Policy, Washington, DC

Education

M.P.P., University of Michigan, 1986

B.A., Political Science, University of Michigan, 1985

Selected Projects

- **Natural Resources Defense Council (Illinois, Michigan and Ohio).** Critically review efficiency, demand response, electrification, distribution system investment and integrated resource plans filed by IL, MI and OH utilities. Draft/defend regulatory testimony on critiques. Represent NRDC in regular stakeholder-utility engagement processes. Represent NRDC in collaborative development of non-wires solution pilots. Support development of Illinois clean energy legislation. (2010 to present)
- **E4TheFuture.** Co-authored National Standard Practice Manual Benefit Cost-Analysis of Distributed Energy Resources (2020) and NSPM for efficiency (2017). Present the NSPM to audiences across the U.S. and Canada; helping several to assess how to use it to refine current practices. (2016-present)
- **Vermont Agency of Natural Resources.** Supported EFG/Cadmus team in analysis of pathways for achieving the state's Global Warming Solutions Action emission reduction requirements, including marginal abatement cost curve development (2022). Supporting new assessment of emissions and cost tradeoffs between policy options for decarbonizing buildings and industry sectors (2023).

Energy Futures Group, Inc

PO Box 587, Hinesburg, VT 05461 – USA  802-482-2625  cneme@energyfuturesgroup.com

- **Connecticut Energy Efficiency Board.** Part of team providing on-going review and input on utility efficiency program planning and related policy issues. Lead role in providing input on New England Avoided Energy Supply Cost study and cost-effectiveness screening policy issues. (2019-present)
- **Ontario Energy Board.** Appointed to serve on provincial gas DSM Evaluation Advisory Committee, providing input on multi-year evaluation plans, scopes of work for evaluation studies and independent evaluator assessments of utilities' annual gas savings claims. Also serve on gas IRP committee, providing input on non-pipe alternatives, including cost-effectiveness analyses and selection of pilot projects. Previously also appointed to advisory committees on gas and electric efficiency potential studies and advisory committee on carbon price forecast studies. (2015-present)
- **Green Energy Coalition (Ontario).** Represent coalition of environmental groups in regulatory proceedings, utility negotiations and stakeholder meetings on DSM policies, utility proposed DSM Plans, integrated resource planning and rules governing non-pipe alternatives. (1993 to present)
- **Energy Action Network (Vermont).** Co-authored a white paper on the concept of a "Clean Heat Standard" – a kind of renewable portfolio standard that would impose increasing obligations on Vermont Gas and wholesale suppliers of fuel oil and propane to reduce greenhouse gas emissions from burning of fossil fuels in homes and businesses, consistent with the state's Global Warming Solutions Act requirements (e.g., 40% reduction by 2030). Co-leading related voluntary working group of interested parties providing input on the design of the policy. Testified before Vermont House Energy and Technology Committee on Clean Heat Standard legislation. (2020-present)
- **Sierra Club (Massachusetts).** Supported Sierra Club's participation in an year-long process in which the Massachusetts' gas utilities engaged with stakeholders to discuss and consider the future of the gas industry in the context of decarbonization policy goals. Reviewed draft inputs to technical study of options for decarbonizing the gas industry presented to the group and assisted in drafting regulatory comments on final study results as well as gas utility policy proposals. (2021-2022).
- **Environmental Law and Policy Center.** Filed expert witness testimony supporting AEP Ohio's initial proposal to run a portfolio of efficiency programs and in opposition to a proposed rate case settlement agreement to eliminate such programs. (2021)
- **Sierra Club (Maryland).** Provided strategic support on testimony on cost-effectiveness and other rules governing expansion of gas infrastructure to connect additional customers. (2021)
- **New Jersey Board of Public Utilities.** Served on management team responsible for statewide delivery of New Jersey Clean Energy Programs. Led strategic planning; support regulatory filings, cost-effectiveness analysis & evaluation work. (2015 to 2020). Served on management team for start-up of residential and renewables programs for predecessor project. (2006-2010)
- **Regulatory Assistance Project - U.S.** Provided guidance on efficiency policy and programs. Lead author on strategic reports on program options for decarbonizing Vermont buildings, achieving 30% electricity savings in 10 years, using efficiency to defer T&D system investments, & bidding efficiency into capacity markets. (2010 to 2020)
- **Energy Efficiency Alberta.** Assisted EEA in providing input to Alberta Utilities Commission on the role efficiency resources can play in reducing electric system costs. (2019 to 2020)

- **Consumers Association of Canada (Manitoba) and Winnipeg Harvest.** Critically reviewed and filed regulatory testimony on Efficiency Manitoba's first three-year plan (2020-2023), with particular emphasis on the extent to which the plan supported advanced heat pump technology as both an electric efficiency measure and a key to future building electrification. (2019-2020).
- **Citizens Action Coalition of Indiana.** Critically reviewed how energy efficiency resources were modeled in utility IRPs, as well as the design of energy efficiency program portfolios. (2018 to 2020)
- **Efficiency Vermont.** Provided technical support in review of avoided cost assumptions, as well as related policies on cost-effectiveness analyses of efficiency resources (2019).
- **Earth Justice and Southern Alliance for Clean Energy.** Helped critically review Florida utilities' efficiency potential studies and proposed 2020-2024 energy efficiency savings targets. (2019)
- **New Hampshire Office of the Consumer Advocate.** Drafted expert witness testimony on the merits of utilities adding a pilot non-wires solution project to their efficiency program plans. (2018)
- **Regulatory Assistance Project - Europe.** Provide on-going support on efficiency policies and programs in the United Kingdom, Germany, and other countries. Reviewed draft European Union policies on Energy Savings Obligations, EM&V protocols, and related issues. Drafted policy brief on efficiency feed-in-tariffs and roadmap for residential retrofits. (2009 to 2018)
- **Green Mountain Power (Vermont).** Supported development and implementation of GMP's first compliance plan for Vermont RPS Tier 3 requirement to reduce customers' direct consumption of fossil fuels, with significant emphasis on strategic electrification strategies. Also developed 10-year forecast of sales that could result from three different levels of policy/program promotion of residential electric space heating, electric water heating and electric vehicles. (2016 to 2018)
- **Alberta Energy Efficiency Alliance.** Drafted white paper how treatment of "efficiency as a resource" could be institutionalized in Alberta. The paper followed several presentations to government agencies and others on behalf of the Pembina Institute. (2017 to 2018)
- **Southern Environmental Law Center.** Assessed reasonableness of Duke Energy's historic efficiency program savings claims, as well as the design of their efficiency program portfolios for 2019. Filed expert witness testimony on findings in North Carolina dockets (2018).
- **Toronto Atmospheric Fund.** Helped draft an assessment of efficiency potential from retrofitting of cold climate heat pumps into electrically heated multi-family buildings (2017).
- **Northeast Energy Efficiency Partnerships.** Helped manage Regional EM&V forum project estimating savings for emerging technologies, including field study of cold climate heat pumps. Led assessment of best practices on use of efficiency to defer T&D investment. (2009 to 2015)
- **Ontario Power Authority.** Managed jurisdictional scans on leveraging building efficiency labeling/disclosure requirements and non-energy benefits in cost-effectiveness screening. Supported staff workshop on the role efficiency can play in deferring T&D investments. Presented on efficiency trends for Advisory Council on Energy Efficiency. (2012-2015)
- **Vermont Public Interest Research Group.** Conducted comparative analysis of the economic and environmental impacts of fuel-switching from oil/propane heating to either natural gas or efficient, cold climate electric heat pumps. Filed regulatory testimony on findings. (2014-2015)

- **New Hampshire Electric Co-op.** Led assessment of the co-op's environmental and social responsibility programs' promotion of whole building efficiency retrofits, cold climate heat pumps and renewable energy systems. Presented recommendations to the co-op Board. (2014)
- **National Association of Regulatory Utility Commissioners (NARUC).** Assessed alternatives to 1st year savings goals to eliminate disincentives to invest in longer-lived savings. (2013)
- **California Investor-Owned Utility.** Senior advisor on EFG project to analyze 10 leading U.S. utility portfolios to determine if there are differences in the cost of saved energy related to utility spending in specific non-incentive categories, including administration, marketing, and EM&V. (2013)
- **DC Department of the Environment (Washington DC).** Part of VEIC team administering the DC Sustainable Energy Utility (SEU). Helped characterize the DC efficiency market and supporting the design of efficiency programs that the SEU will be implementing. (2011 to 2012)
- **Ohio Sierra Club.** Filed and defended expert witness testimony on the implications of not fully bidding all efficiency resources into the PJM capacity market. (2012)
- **Regulatory Assistance Project – Global.** Assisted RAP in framing several global research reports. Co-authored the first report – an extensive “best practices guide” on government policies for achieving energy efficiency objectives, drawing on experience with a variety of policy mechanism employed around the world. (2011)
- **Tennessee Valley Authority.** Assisted CSG team providing input to TVA on the redesign of its residential efficiency program portfolio to meet aggressive new five-year savings goals. (2010)
- **New York State Energy Research and Development Authority (NYSERDA).** Led residential & renewables portions of several statewide efficiency potential studies. (2001 to 2010)
- **Ohio Public Utilities Commission.** Senior Advisor to a project to develop a web-based Technical Reference Manual (TRM). The TRM includes deemed savings assumptions, deemed calculated savings algorithms and custom savings protocols. It was designed to serve as the basis for all electric and gas efficiency program savings claims in the state. (2009 to 2010)
- **Vermont Electric Power Company.** Led residential portion of efficiency potential study to assess alternatives to new transmission line. Testified before Public Service Board. (2001-2003)
- **Efficiency Vermont.** Served on Sr. Management team. Supported initial project start-up. Oversaw residential planning, input to regulators on evaluation, input to regional EM&V forum, development of M&V plan and other aspects of bidding efficiency into New England's Forward Capacity Market (FCM), and development and updating of nation's first TRM. (2000 to 2010)
- **Long Island Power Authority Clean Energy Plan.** Led team that designed the four major residential programs (three efficiency, one PV) incorporated into the plan in 1999. Oversaw extensive technical support to the implementation of those programs. This involved assistance with the development of goals and budgets, development of savings algorithms, cost-effectiveness screening, and on-going program design refinements. (1998 to 2009)

Selected Publications and Reports

- *Cost Savings and CO₂ Emission Reductions of Residential Electrification in Peoples Gas Territory*, prepared for the Natural Resources Defense Council, November 2022 (with David Hill & Liz Bourguet)
- *Tip of the Spear: How Efficiency Programs Supporting Cold Climate Heat Pumps in Low Income Multi-Family Buildings Could Help Lay the Foundation for Building Decarbonization in Michigan and Illinois*, 2022 ACEEE Summer Study on Energy Efficiency in Buildings (with Laura Goldberg, Valeria Rincon and Samantha Williams)
- *The Clean Heat Standard*, Vermont Energy Action Network (EAN) White Paper, December 2021 (with Richard Cowart)
- *National Standard Practice Manual for Benefit Cost Analysis of Distributed Energy Resources*, August 2020, (with Tim Woolf and others)
- *Reducing CO₂ Emissions from Vermont Buildings: Potential and Cost-Effectiveness of Select Program Options*, Regulatory Assistance Project, February 13, 2019 (with Richard Faesy)
- *Pumping Energy Savings: Recommendations for Accelerating Heat Pump Adoption in Ontario's Electrically Heated Multi-Residential Buildings*, Toronto Atmospheric Fund, July 2018 (with Devon Calder, Brian Purcell and Judy Simon)
- *National Standard Practice Manual for Assessing Cost-Effectiveness of Energy Efficiency Resources*, Edition 1, Spring 2017 (with Tim Woolf, Marty Kushler, Steven Schiller and Tom Eckman)
- *The Next Quantum Leap in Efficiency: 30% Electricity Savings in 10 Years*, Proceedings of the 2016 ACEEE Summer Study on Energy Efficiency in Buildings, Volume 9, pp. 1-14 (with Jim Grevatt, Rich Sedano and Dave Farnsworth)
- *The Next Quantum Leap in Efficiency: 30% Electricity Savings in Ten Years*, published by the Regulatory Assistance Project, February 2016 (with Jim Grevatt)
- *Energy Efficiency as a T&D Resource: Lessons from Recent U.S. Efforts to Use Geographically Targeted Efficiency Programs to Defer T&D Investments*, published by Northeast Energy Efficiency Partnerships, January 9, 2015 (with Jim Grevatt)
- *Unleashing Energy Efficiency: The Best Way to Comply with EPA's Clean Power Plan*, Public Utilities Fortnightly, October 2014, pp. 30-38 (with Tim Woolf, Erin Malone and Robin LeBaron)
- *The Resource Value Framework: Reforming Energy Efficiency Cost-Effectiveness Screening*, published by the National Efficiency Screening Project, August 2014 (with Tim Woolf et al.)
- *U.S. Experience with Participation of Energy Efficiency in Electric Capacity Markets*, Regulatory Assistance Project, August 2014 (with Richard Cowart)
- *The Positive Effects of Energy Efficiency on the German Electricity Sector*, IEPEC 2014 Conference, September 2014 (with Friedrich Seefeldt et al.)

- *Final Report: Alternative Michigan Energy Savings Goals to Promote Longer Term Savings and Address Small Utility Challenges*, prepared for the Michigan Public Service Commission, September 13, 2013 (with Optimal Energy)
- *Energy Efficiency Feed-in-Tariffs: Key Policy and Design Considerations*, Proceedings of ECEEE 2013 Summer Study, pp 305-315 (with Richard Cowart)
- *Can Competition Accelerate Energy Savings? Options and Challenges for Efficiency Feed-in-Tariffs*, published in *Energy & Environment*, Volume 24, No. 1-2, February 2013 (with Richard Cowart)
- *An Energy Efficiency Feed-in-Tariff: Key Policy and Design Considerations*, published by the Regulatory Assistance Project, March/April 2012 (with Richard Cowart)
- *U.S. Experience with Efficiency as a Transmission and Distribution System Resource*, published by the Regulatory Assistance Project, February 2012 (with Rich Sedano)
- *Achieving Energy Efficiency: A Global Best Practices Guide on Government Policies*, published by the Regulatory Assistance Project, February 2012 (with Nancy Wasserman)
- *Residential Efficiency Retrofits: A Roadmap for the Future*, published by the Regulatory Assistance Project, May 2011 (with Meg Gottstein and Blair Hamilton)
- *Is it Time to Ditch the TRC?* Proceedings of ACEEE 2010 Summer Study on Energy Efficiency in Buildings, Volume 5 (with Marty Kushler)
- *Energy Efficiency as a Resource in the ISO New England Forward Capacity Market*, in *Energy Efficiency*, published on line 06 June 2010 (with Cheryl Jenkins and Shawn Enterline)
- *A Comparison of Energy Efficiency Programmes for Existing Homes in Eleven Countries*, prepared for the British Department of Energy and Climate Change, 19 February, 2010 (with Blair Hamilton et al.)
- *Energy Efficiency as a Resource in the ISO New England Forward Capacity Market*, Proceedings of the 2009 European Council on an Energy Efficient Economy Summer Study, pp. 175-183 (with Cheryl Jenkins and Shawn Enterline)
- *Playing with the Big Boys: Energy Efficiency as a Resource in the ISO New England Forward Capacity Market*, Proceedings of ACEEE 2008 Summer Study Conference on Energy Efficiency in Buildings, Volume 5 (with Cheryl Jenkins and Blair Hamilton)
- *Recommendations for Community-Based Energy Program Strategies, Final Report*, developed for the Energy Trust of Oregon, June 1, 2005 (with Dave Hewitt et al.)
- *Shareholder Incentives for Gas DSM: Experience with One Canadian Utility*, Proceedings of ACEEE 2004 Summer Study on Energy Efficiency in Buildings, Volume 5 (with Kai Millyard)
- *Cost Effective Contributions to New York's Greenhouse Gas Emission Reduction Targets from Energy Efficiency and Renewable Energy Resources*, ACEEE 2004 Summer Study Proceedings, Volume 8 (with David Hill et al.)
- *Opportunities for Accelerated Electric Energy Efficiency Potential in Quebec: 2005-2012*, prepared for Regroupement national des conseils regionaux de l'environnement du Quebec, Regroupement des organismes environnementaux energie and Regroupement pour la

responsabilite sociale des entreprises, May 16, 2004 (with Eric Belliveau, John Plunkett and Phil Dunsky)

- *Review of Connecticut's Conservation and Load Management Administrator Performance, Plans and Incentives*, for Connecticut Office of Consumer Counsel, October 31, 2003 (with John Plunkett, Phil Mosenthal, Stuart Slote, Francis Wyatt, Bill Kallock and Paul Horowitz)
- *Energy Efficiency and Renewable Energy Resource Development Potential in New York State*, for New York Energy Research and Development Authority, August 2003 (with John Plunkett, Phil Mosenthal, Stave Nadel, Neal Elliott, David Hill and Christine Donovan)
- *Assessment of Economically Deliverable Transmission Capacity from Targeted Energy Efficiency Investments in the Inner and Metro-Area and Northwest and Northwest/Central Load Zones", for Vermont Electric Power Company, Final Report: April 2003* (with John Plunkett et al.)
- *Residential HVAC Quality Installation: New Partnership Opportunities and Approaches*, Proceedings of ACEEE 2002 Summer Study Conference on Energy Efficiency in Buildings, Volume 6 (with Rebecca Foster, Mia South, George Edgar and Put Murphy)
- *A Modified Delphi Approach to Predict Market Transformation Program Effects*, Proceedings of ACEEE 2000 Summer Study Conference on Energy Efficiency in Buildings, Volume 6 (with Phil Mosenthal et al.)
- *Using Targeted Energy Efficiency Programs to Reduce Peak Electrical Demand and Address Electric System Reliability Problems*, published by the American Council for an Energy Efficient Economy, November 2000 (with Steve Nadel and Fred Gordon)
- *Energy Savings Potential from Addressing Residential Air Conditioner and Heat Pump Installation Problems*, American Council for an Energy Efficient Economy, February 1999 (with John Proctor and Steve Nadel)
- *Promoting High Efficiency Residential HVAC Equipment: Lessons Learned from Leading Utility Programs*, Proceedings of ACEEE 1998 Summer Study Conference on Energy Efficiency in Buildings, Volume 2 (with Jane Peters and Denise Rouleau)
- *PowerSaver Home Program Impact Evaluation*, report to Potomac Edison, February 1998 (with Andy Shapiro, Ken Tohinaka and Karl Goetze)
- *A Tale of Two States: Detailed Characterization of Residential New Construction Practices in Vermont and Iowa*, Proceedings of ACEEE 1996 Summer Study Conference on Energy Efficiency in Buildings, Volume 2 (with Blair Hamilton, Paul Erickson, Peter Lind and Todd Presson)
- *New Smart Protocols to Avoid Lost Opportunities and Maximize Impact of Residential Retrofit Programs*, in Proceedings of ACEEE 1994 Summer Study on Energy Efficiency in Buildings (with Blair Hamilton and Ken Tohinaka)
- *Economic Analysis of Woodchip Systems and Finding Capital to Pay for a Woodchip Heating System*, Chapters 6 and 8 in *Woodchip Heating Systems: A Guide for Institutional and Commercial Biomass Installations*, published by the Council of Northeastern Governors, July 1994

- *PSE&G Lost Opportunities Study: Current Residential Programs and Relationship to Lost Opportunities*, prepared for the PSE&G DSM Collaborative, June 1994 (with Blair Hamilton, Paul Berkowitz and Wayne DeForest)
- *PSE&G Lost Opportunities Study: Preliminary Residential Market Analysis*, prepared for the PSE&G DSM Collaborative, May 1994 (with Blair Hamilton, Paul Berkowitz and Wayne DeForest)
- *Long-Range Evaluation Plan for the Vermont Weatherization Assistance Program*, prepared for the Vermont Office of Economic Opportunity, February 1994 (with Blair Hamilton and Ken Tohinaka)
- *Impact Evaluation of the 1992-1993 Vermont Weatherization Assistance Program*, prepared for the Vermont Office of Economic Opportunity, December 1993 (with Blair Hamilton and Ken Tohinaka)
- *Electric Utilities and Long-Range Transport of Mercury and Other Toxic Air Pollutants*, published by the Center for Clean Air Policy, 1991
- *Coal and Emerging Energy and Environmental Policy*, in Natural Resources and Environment, 1991 (with Don Crane)
- *Acid Rain: The Problem*, in EPA Journal, January/February 1991 (with Ned Helme)
- *An Efficient Approach to Reducing Acid Rain: The Environmental Benefits of Energy Conservation*, published by the Center for Clean Air Policy, 1989
- *The Untold Story: The Silver Lining for West Virginia in Acid Rain Control*, published by the Center for Clean Air Policy, 1988
- *Midwest Coal by Wire: Addressing Regional Energy and Acid Rain Problems*, published by the Center for Clean Air Policy, 1987
- *Acid Rain: Road to a Middle Ground Solution*, published by the Center for Clean Air Policy, 1987 (with Ned Helme)