

August 5, 2020

Ontario Energy Board
Attn: Christine E. Long, Registrar and Board Secretary
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, ON
M4P 1E4

Dear Ms Long

Re: EB-2020-0091 EGI IRP Proposal – GEC and ED Evidence Proposal

I am writing pursuant to Procedural Order #3 to describe the nature of the evidence that the Green Energy Coalition (“GEC”) and Environmental Defence (“ED”) propose to jointly commission. We have conferred with several other parties who have indicated that they will not be bringing forward expert evidence in light of this proposal.

Proposed Evidence

GEC and ED propose to retain Chris Neme of the Energy Futures Group to prepare evidence focusing on the topic areas described in Schedule A. We believe this evidence would be of great value to the Board and would complement, not duplicate, the evidence that is being commissioned by Board Staff.

Board Staff is proposing to focus on gas IRP in New York state. The evidence of the Energy Futures Group would complement this by:

- Focusing on key IRP framework issues in the Ontario context;
- Drawing from IRP lessons learned in the electricity sector and assessing which of those lessons are and are not transferable to the gas sector in Ontario;
- Drawing from IRP lessons learned in the gas sector in jurisdictions other than New York; and
- Drawing from Mr. Neme’s extensive experience with Ontario’s natural gas sector, Ontario’s existing demand side management (“DSM”) programs, and best practices in IRP and DSM programs across North America.

Mr. Neme is perfectly placed to put recommendations forward regarding key IRP issues that will assist the Board in developing the framework. During his more than 25 years in the clean energy industry, Mr. Neme has worked for energy regulators, utilities, government agencies and advocacy organizations in more than 30 states, 7 Canadian provinces and several European countries. He has defended expert witness testimony in nearly 60 cases before regulatory commissions in 13 different jurisdictions; he has

also testified before several state legislatures. Mr. Neme's CV is attached as Schedule B.

Process

If the Board approves this evidence, we ask that we be provided the opportunity to augment the evidence if, after reviewing the evidence of Board Staff, further expert comment on the New York experience is warranted. This would further assist Mr. Neme in ensuring his evidence is complementary to that of Board Staff.

Sincerely,

A handwritten signature in black ink, appearing to read "David Poch", with a stylized flourish at the end.

David Poch

Cc: all parties

Schedule A: Proposed Evidence Topic Areas of Focus

- Goals of IRP (Issue 1)
 - Recommendations for goals in economic terms
 - Identify other relevant non-economic considerations
- IRP process issues (Issue 2):
 - Address the importance of identifying needs far enough in advance to allow for real consideration of alternatives to supply-side investments
 - How far in advance should forecasts of capital investment needs be developed?
 - How often should such forecasts be updated?
 - The need for localized assessment (geographic targeting) of non-pipe alternatives potential
 - Should there be initial screening criteria to determine when/whether to proceed with more detailed analysis? If so, what should those criteria be?
 - What would a localized analysis need to address?
 - How would a localized analysis be different than – and how could it leverage – system-wide efficiency potential studies?
 - Models for robust stakeholder engagement at key decision points
- Industry best practices (issue 5)
 - What is the relevance of experience with electric IRP (non-wires alternatives) to gas IRP – what is applicable and what may not be.
 - Are there other, important, non-New York jurisdictional examples of gas IRP and/or related initiatives to address peak capacity needs from which lessons can be learned and applied to Enbridge and Ontario?
 - What does the recent experience of leading gas utilities suggest about achieving demand savings by geo-targeted efforts?
 - Is there a role for field tests and pilot projects to test IRP concepts?
- Screening criteria and methodology for comparing alternatives (Issue 6)
 - Cost-effectiveness assessment and comparison methodology
 - What tests and methodology should be used?
 - How should financial risk be addressed in cost-effectiveness analysis?
- Cost recovery and utility financial incentives for non-pipe solutions (Issues 7 & 9)
 - Outline a range of options, drawing from examples in other jurisdictions where appropriate
 - Discuss the interplay between the cost recovery methods and incentive structures (e.g. if costs are rate based)

Cost Estimates for Proposed Evidence and Incremental Counsel Time

Energy Futures Group:

Draft Budget for Ontario Gas IRP Evidence			
Task	Hours		Cost
	C.Neme	Analyst	
	\$330/hr	\$170/hr	
1 Review OEB Order, Enbridge/Staff Outlines, ICF Report; Draft Evidence Out line	6		\$1,980
2 Review Enbridge and Staff Evidence, Draft Interrogatories	16		\$5,280
3 Draft Evidence			
A Review and analyze IR responses	4		\$1,320
B Research on other jurisdictions	24	16	\$10,640
C Draft detailed report outline and discuss w/GEC/ED	4		\$1,320
D Draft report	40	8	\$14,560
4 Respond to IRs on GEC/ED Evidence	8		\$2,640
5 Stand Cross (remotely, if needed, incl prep)	16		\$5,280
6 Draft Undertaking Responses (if needed)	4		\$1,320
7 Assist Counsel with drafting of briefs	8		\$2,640
Totals	130	24	\$46,980
Totals if no cross or undertakings	110	24	\$40,380
Notes:			
1 May include a few hours from other EFG staff with relevant expertise (e.g. David Hill) at appropriate rates			
2 Estimates of time for drafting IR responses, standing cross and developing undertakings a best estimate based on past experience with OEB cases. Actual time may vary depending on how many and what type of IRs asked, time spent on the stand under cross, number of undertaking responses, etc.			
3 Does not include any time for settlement discussions, as they are assumed to not happen in this case.			

Counsel:

Note: Any attendance for presentation and cross-examination of evidence and any resulting undertakings would be in addition and has not been estimated here as these aspects of the process are both uncertain at this time and are not within the control of counsel.

To confer other parties and confer with and retain expert re: proposed evidence

To review expert's draft IRs to other parties

To review and comment on draft evidence

To review IRs for relevance

To review and comment on draft interrogatory responses

To prepare expert witness for oral evidence

GEC and ED \$7500

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 clean energy industry, Mr. Neme has worked for energy regulators, utilities, government agencies and advocacy organizations in more than 30 states, 7 Canadian provinces and several European countries. He has defended expert witness testimony in nearly 60 cases before regulatory commissions in 13 different jurisdictions; he has also testified before several state legislatures. Chris has also authored or co-authored numerous reports and papers regarding clean energy policies and programs, including the first edition (Spring 2017) of the National Standard Practice Manual for Assessing Cost-Effectiveness of Energy Efficiency Resources, an update of that Manual addressing all distributed energy resources (June 2020) and several reports on non-wires 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 multi-year efficiency, demand response, electrification, distribution system investment and integrated resource plans filed by Illinois, Michigan & Ohio utilities. Draft/defend regulatory testimony on critiques. Represent NRDC in regular stakeholder-utility processes developing efficiency policy manuals, annual TRM updates, annual NTG updates, evaluation plans and other work. Also represent NRDC in collaborative development of non-wires alternative pilots. Supported development of Illinois clean energy legislation adopted in late 2016, as well as new legislation to update the 2016 law that is currently pending. (2010 to present)

Energy Futures Group, Inc

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

- **Ontario Energy Board.** Serve on provincial gas DSM Evaluation Advisory Committee. Work includes input on multi-year evaluation plans, input on scopes of work for evaluation studies, serving on OEB teams that review and score proposals submitted in response to evaluation RFPs, and critical review and input on independent evaluator assessments of utilities' annual gas savings claims. Also serve on 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 (including integrated resource planning on pipeline expansions) and utility proposed DSM Plans. (1993 to present)
- **E4TheFuture.** Co-authored first edition (Spring 2017) of the National Standard Practice Manual (NSPM) for cost-effectiveness analysis of energy efficiency. Presenting the NSPM for EE to a wide variety of audiences across the U.S. and Canada; helping several to assess how to use it to refine current practices. Co-authoring updated NSPM (expected June 2020) that will expand focus from just EE to address all distributed energy resources. (2016 to present)
- **New Jersey Board of Public Utilities.** Serve on management team responsible for statewide delivery of New Jersey Clean Energy Programs. Lead strategic planning; support regulatory filings, cost-effectiveness analysis & evaluation work. (2015 to present). Served on management team for start-up of residential and renewables programs for predecessor project. (2006-2010)
- **Regulatory Assistance Project - U.S.** Provide 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 present)
- **Energy Efficiency Alberta.** Assisting EEA in providing input to Alberta Utilities Commission on the role efficiency resources can play in reducing electric system costs. (2019 to present)
- **Citizens Action Coalition of Indiana.** Critically reviewing how energy efficiency resources are being modeled in IRPs of several Indiana electric utilities, as well as the design of energy efficiency program portfolios. (2018 to present)
- **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).
- **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)
- **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).** Support development and implementation of GMP's 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 first year savings goals to eliminate disincentives to invest in longer-lived measures and programs. (2013)
- **California Investor-Owned Utility.** Senior advisor on EFG project to compare the cost of saved energy across ~10 leading U.S. utility portfolios. The research sought to determine if there are discernable 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

- *National Standard Practice Manual for Assessing Cost-Effectiveness of Distributed Energy Resources*, (with Tim Woolf and others), forthcoming Summer 2020
- *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 Dunskey)
- *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 Middleground Solution*, published by the Center for Clean Air Policy, 1987 (with Ned Helme)