

PAUL J. HIBBARD
Principal

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Mr. Hibbard is an expert on economics, strategy, regulation, and policy in the electric and natural gas industries. He has a comprehensive background merging business development, technical analysis, resource planning and development modeling, economics, and public policy in the energy and environmental fields. Throughout his career, he has administered and promoted an agenda of advanced ratemaking and policy initiatives for energy companies. Mr. Hibbard has also provided technical and strategic advice to government, industry, business, public interest groups, and trade organizations on energy market structure, electric and natural gas infrastructure planning and siting, utility resource solicitation and procurement, emission allocation and environmental policy, renewable resource program design and administration, transmission pricing, climate change policy, utility ratemaking practices, and the transfer of US federal and state emission control programs to other countries.

Prior to joining Analysis Group, Mr. Hibbard was chairman of the Massachusetts Department of Public Utilities. During his tenure, he carried out a forward-looking ratemaking and policy agenda to advance energy efficiency and renewable resources, coordinate regional efforts in the development of energy resources and associated infrastructure, and promote the administration of fair and efficient transmission pricing models in regional and national contexts. He also provided testimony on resource planning, competitive electricity markets, and transmission pricing in hearings before committees of the Massachusetts legislature and the US House of Representatives, the Federal Energy Regulatory Commission (FERC), and state and regional planning councils. Mr. Hibbard has also served as a member of many energy-related boards and committees.

EDUCATION

- M.S. Energy and resources, University of California, Berkeley
Thesis: Safety and Environmental Hazards of Nuclear Reactor Designs
(completed Ph.D. coursework in nuclear engineering)
- B.S. Physics, University of Massachusetts Amherst

PROFESSIONAL EXPERIENCE

- 2010–Present **Analysis Group, Inc.**
Principal (2015–Present)
Vice President (2010–2015)
- 2007–2010 **Massachusetts Department of Public Utilities**
Chairman
Member, Energy Facilities Siting Board
Manager, New England States Committee on Electricity
Treasurer, Executive Committee, Eastern Interconnect States' Planning Council

- 2007–2010 **Massachusetts Department of Public Utilities** (continued)
Representative, New England Governors' Conference (NEGEC)
Power Planning Committee
Member, National Association of Regulatory Utility Commissioners (NARUC)
Electricity Committee, Procurement Work Group
- 2003–2007 **Analysis Group, Inc.**
Vice President (2005–2007)
Manager (2003–2005)
- 2000–2003 **Lexecon Inc.**
Senior Consultant (2002–2003)
Consultant (2000–2002)
- 1998–2000 **Massachusetts Department of Environmental Protection**
Environmental Analyst
- 1991–1998 **Massachusetts Department of Public Utilities**
Senior Analyst, Electric Power Division
- 1988–1991 **University of California, Berkeley**
Research Assistant, Safety/Environmental Factors in Nuclear Designs

SELECTED PUBLIC SECTOR EXPERIENCE (MASSACHUSETTS)

- ***Chairman, Department of Public Utilities***
 - Chaired the state's public utilities commission during a period of aggressive change in state policies affecting electricity and natural gas industries, including initial implementation of several new state energy laws and initiatives restructuring the setting of utility rates, promoting the expansion of energy efficiency and demand response, facilitating the retail and wholesale market integration of renewable and low-carbon resources, and revising state policy on the siting of major generation and transmission infrastructure.
 - Oversaw the issuance of initial regulations and policy related to revenue decoupling, net metering, long-term contracting for renewables, and power system emergency planning and outage restoration.
 - Led Massachusetts's work with regulators across the Northeast to pursue large-scale renewable resource development through coordinated procurement strategies, to develop coordinated positions related to national transmission development proposals and establish a regional presence on transmission-related provisions in federal legislation.
 - As chairman, served as administrative and policy head of an agency of nearly 150 employees, responsible for agency management and growth, budgeting, legislative matters, press inquiries, and policy agenda-setting.
 - Oversaw completion of all dockets jurisdictional to the department, including rate cases and associated tariff matters, forecast and supply planning for electric and natural gas industries, and state oversight of natural gas pipeline safety and public transit authorities.
 - Responsible for all interaction with the governor's office, legislature, and Executive Office of Energy and Environmental Affairs, as well as representing the state in regional deliberations related to electric and natural gas utility policy, electricity market design and oversight, and regional power system reliability issues.

- ***Member, Energy Facilities Siting Board***
Sitting member of state board with responsibility to review all proposals for major generation and transmission infrastructure projects within the state, as well as state intervention in federal review of natural gas pipeline infrastructure. Review involved technical, environmental, and economic review of jurisdictional power plants, transmission lines, and other energy infrastructure, as well as ruling on proposals for exemption from state and local zoning ordinances.
- ***Manager, New England States Committee on Electricity***
State representative on regional group chartered to develop New England regional policy positions on electricity market and transmission planning issues. Included consideration of group development issues, input into regional determinations of installed capacity requirement, consideration of regional approaches to transmission planning and the consideration of non-transmission alternatives, and coordinated development of a regional RFP/RFI for the solicitation of renewable power under long-term contracts for the New England states.
- ***Treasurer, Executive Committee, Eastern Interconnection States' Planning Council***
Elected treasurer of steering committee for state council formed under a US Department of Energy (DOE) grant to coordinate with power system operators on developing long-range plans for transmission system spanning 41 states in the Eastern US. Coordinated New England states' approach to policy issues stemming from council efforts.
- ***Representative, NEGC Power Planning Committee***
Represented governor's office in all discussions related to regional energy/environmental issues, including transmission cost allocation, regional energy policy coordination, and development of mechanisms for and approaches to procurement of renewable power through long-term contracts with sources in New England and Eastern Canada. Engaged in collaborative discussions with counterparts representing the Eastern Canadian Premiers.

SELECTED CONSULTING EXPERIENCE

Government, Foundations, Commissions, Cooperatives

- ***For the Coalition for Green Capital*** – Coauthored a white paper examining the potential of a federally authorized Clean Energy and Sustainability Accelerator that could address economic and climate crises (2021).
- ***For the Advanced Energy Economy Institute (AEE Institute)*** – Coauthored a public report on the economic impact of potential stimulus spending on clean and advanced energy resources (2020).
- ***For a Municipal Association*** – Drafted a white paper related to the fuel mix and emission characteristics of the portfolio of generating assets and power contracts used by municipal electric light companies in Massachusetts (2020).
- ***For the Wellesley Municipal Light Plant (WMLP)*** – Coauthored two white papers on the greenhouse gas (GHG) impacts of the WMLP power portfolio, and considerations for the WMLP associated with achieving continued reductions in carbon emissions over the ensuing decades (2020).
- ***For the Georgetown Climate Center*** – Conducted a bill impact analysis related to Virginia's proposed implementation of a carbon cap and trade program (2018).
- ***For Energy New England*** – Provided strategic assistance on energy market and public policy issues in New England (2017).
- ***For the Environmental Defense Fund*** – Coauthored a white paper related to historical power system emission trends (2015).

- **For the Massachusetts Attorney General** – Coauthored a report evaluating electric and natural gas infrastructure in New England from the perspectives of reliability, cost, and GHG emissions (2015).
- **For the Advanced Energy Economy Institute** – Coauthored a report on the status of the electric industry in the State of Ohio, and developed recommendations on state energy policy in consideration of the state’s market and technological circumstances at the time.
- **For the Energy Foundation and industry groups** – Coauthored multiple white papers on the reliability, cost, and market efficiency impacts of US Environmental Protection Agency’s (EPA’s) proposed regulations to control emissions of carbon dioxide from existing electric generating facilities. Presented results in numerous conference, stakeholder, and regulatory settings.
- **For a foundation** – Led a study of the economic impacts of a state clean energy policy (2013–2014).
- **For the Massachusetts Department of Energy Resources** – Provided testimony on the ratepayer and social benefits of reducing methane leaks from a local natural gas distribution company’s system (2013).
- **For the Advanced Energy Economy Institute** – Facilitated a regional symposium for New England Conference of Public Utility Commissioners and staff related to advanced energy technology development and commercialization, and the legal and regulatory structures needed to facilitate integration of emerging technologies (2013).
- **For the Regional Greenhouse Gas Initiative (RGGI)** – Conducted a bill impact analysis related to changes to retail customer electric bills in New England, New York, and RGGI PJM states associated with various changes considered by RGGI to program cap level and use of allowance revenues (2012).
- **For the AEE Institute** – Participated in a project advising the AEE Institute with respect to its national program to support public utility commission consideration of policies and regulations related to the development and integration of advanced energy technologies (2012–2013).
- **For the Merck Family Fund** – Developed an interactive tool to compare the impacts of energy, economic, environmental, legislative, and regulatory policies and programs across the US states (2012).
- **For the AEE Institute** – Coauthored a report on the perspectives of CEOs at advanced energy companies doing business in California on California’s energy policies. Conducted over 30 interviews with energy business leaders to get perspectives and recommendations for policy changes (2012).
- **For the Barr Foundation** – Coauthored a report on the benefits and costs associated with reducing natural gas leaks on natural gas distribution systems through implementation of targeted infrastructure replacement ratemaking mechanisms in Massachusetts, Rhode Island, and Ohio. Developed a cost-benefit model to quantify the impacts of such programs (2012–2013).
- **For the American Clean Skies Foundation** – Developed a dispatch price and emissions model to forecast power system outcomes in the PJM Interconnection, Midwest Independent System Operator, and Southwest Power Pool regions (2012).
- **For a national environmental organization** – Conducted a comprehensive national review of energy efficiency monitoring and verification programs, in order to support development of a protocol that could be used to allow energy efficiency to be used as a compliance tool in national carbon emission control regimes (2012–2013).
- **For the Merck Family Fund** – Co-led a project to carry out an analysis of the economic impacts of the Northeast States’ use of revenues collected from the auctioning of carbon allowances associated with RGGI (2011).

- ***For Advanced Energy Economy (AEE)*** – Developed background on electric industry structure, regional planning and market structures and operations, and state energy policy organization and initiatives. Assisted with the development of web-based information platform (2011).
- ***For the American Clean Skies Foundation*** – Authored a paper on the redesign of wholesale electricity market structures to efficiently integrate a higher level of variable resources (2012). Coauthored a white paper examining electric reliability and air emission issues associated with the potential retirement of the Potomac River Generating Station in Alexandria, Virginia (2011).
- ***For the Public Service Commission of Colorado*** – Coauthored a white paper on the design of incentives for the photovoltaic (PV) solar energy market (2011).
- ***For a national environmental organization*** – Conducted an economic analysis of key US cities that were or had been in nonattainment under the National Ambient Air Quality Standards, to explore relationships between air quality control requirements and the local economy (2011).
- ***For a national environmental organization*** – Completed a comprehensive report on the full scope of energy efficiency and demand response programs administered by New York electric utilities and the New York Independent System Operator (NYISO). Assessed the potential for additional innovative programs to improve energy efficiency and demand response in New York City (2010).
- ***For the North Carolina Attorney General*** – Managed project in support of expert testimony on the economic and financial feasibility of requiring the installation of controls to reduce emissions of sulfur dioxide, nitrogen oxides, and mercury from coal-fired power plants owned by the Tennessee Valley Authority (TVA). Project was in the context of a public nuisance lawsuit brought by the North Carolina Attorney General against TVA (2006).
- ***For the National Commission on Energy Policy*** – Authored white papers on (1) the implications for US energy infrastructure of the damage to Gulf Coast energy facilities from Hurricanes Katrina and Rita (2006); (2) the practical and economic implications of various mechanisms for the allocation of carbon dioxide emission allowances to the electric sector under potential federal carbon control regimes (2005); and (3) national energy infrastructure needs for the electricity, natural gas, and petroleum industries, and for addressing the long-term impacts of energy production and use associated with spent nuclear fuel and carbon dioxide (2004).
- ***For the Energy Foundation*** – Coauthored a report (with Dr. Susan Tierney) documenting best practices in energy facility siting regulations in the US, and analyzing in particular the impact of California’s energy facility siting process on that state’s electricity crisis (2002). Supported a foundation-based program to provide international assistance to China’s efforts to privatize and restructure its electric industry, and to develop regulations to control air emissions from power plants in that country (2000–2003).
- ***For the Massachusetts Technology Collaborative (MTC)*** – Managed projects in support of the MTC’s renewable and premium power programs, including (1) creation of a standard financial pro-forma for wind and landfill gas technologies in New England under various assumptions related to capital and operating costs, financing, discount rates, and the impact of state and federal policies to support renewable development; (2) development of an economic model to determine the financial impact on potential wind and combined heat and power facilities of proposed changes to utility standby service tariffs; and (3) research, strategic, and regulatory support of MTC’s efforts to advance distributed generation in Massachusetts to promote renewable resources and improve power reliability for commercial and industrial customers (2000–2002).
- ***For the Massachusetts Health and Educational Facilities Authority (MHEFA) PowerOptions Program*** – Managed several projects providing regulatory, economic, and strategic advice to PowerOptions to assist in their selection and pricing of retail electricity products from competitive electricity suppliers. Over a three-year period projects included analyses of forward prices and

wholesale markets for capacity and reserves; analysis of contract price options, terms, and conditions; and analysis of congestion pricing implications for retail supply (2002–2004).

ENERGY INDUSTRY STAKEHOLDERS

- **For PECO Energy** – Provided testimony on traditional ratemaking principles as applied to PECO’s cost of providing gas delivery service (January 2021).
- **For the Hingham Municipal Lighting Plant (HMLP)** – Conducted an internal evaluation of the impact of decarbonization of residential and commercial energy use in the town, and its effect on HMLP’s investments and operations (September 2020).
- **For a natural gas interstate pipeline company** – Coauthored a white paper and presentation showing options to decarbonize the company’s operations. The study included an analysis of its GHG footprint, identification of options and pathways to reduce net GHG emissions from operations to zero over time, and the development of recommendations for senior management (August 2020).
- **For Oracle Corporation** – Conducted an analysis of and report on the GHG emission reduction impacts of various types of energy efficiency programs and measures, with a focus on the comparison of structural and behavioral energy efficiency programs (August 2020).
- **For NYISO** – Conducted a study of the parameters used as the basis to set the NYISO’s installed capacity demand curves for the four capability years beginning with the summer 2021 capability period (August 2020).
- **For NYISO** – Conducted an internal study of the potential reliability impacts on the electric grid due to changes in system mix and operations associated with a changing climate and with state programs to address climate change (August 2020).
- **For NYISO** – Conducted a study of the potential risks to New York power system operations associated with an increased reliance on natural gas for power generation (2020).
- **For Commonwealth Edison** – Provided testimony on issues associated with a request for a certificate of public convenience and necessity by NextEra related to the proposed acquisition of the transmission assets of Rochelle Municipal Utilities (2020).
- **For Repsol Energy North America** – Provided strategic assistance related to the potential impacts of electric system market rules and public policy on the potential marketability of liquefied natural gas (LNG) in New England (2020).
- **For Liberty Utilities** – Provided testimony on the need for and economic and environmental impacts of the proposed Granite Bridge pipeline and LNG project in the state of New Hampshire (2020).
- **For NYISO** – Coauthored a white paper for NYISO on the potential impacts of a proposed carbon pricing mechanism in New York on power prices; energy policy; and economic, environmental, and public health impacts in New York (2020).
- **For NTE Energy** – Provided testimony before the Connecticut Siting Council on the need for and potential benefits associated with a proposed new natural gas-fired power plant in the state of Connecticut (2020).
- **AltaGas** – Provided testimony before the Maryland and District of Columbia public utility commissions on the potential environmental impacts of a proposed merger between AltaGas and Washington Gas (2017–2018).
- **For Calpine Corporation** – Coauthored a white paper on the design of a proposed carbon trading mechanism in Massachusetts (2017).
- **For Vermont Gas** – Provided testimony on the prudence of Vermont Gas’ decisions and investments with respect to the Addison natural gas project (2017).

- ***For the Vermont Electric Power Company*** – Coauthored a white paper on Vermont Electric Power Company’s capital structure associated with its transmission assets and operations (2016).
- ***For the Merck Family Fund*** – Coauthored a white paper on economic principles associated with the trading of emission allowances associated with RGGI. (2016)
- ***For a consortium of solar companies*** – Developed a white paper on the appropriate evaluation and treatment of behind-the-meter solar PV generation from the perspective of net metering policies in Massachusetts (2015).
- ***For a group of owners of electric generating facilities*** – Developed a comprehensive quantitative and qualitative critique of a utility proposal to invest in electricity storage capability in the State of Texas. Drafted a report for circulation to legislative, regulatory, and market interests reporting the results of the critique and analysis (2015).
- ***For an energy resource developer*** – Conducted a financial and ratepayer analysis of the benefits of a project to develop a power plant and natural gas pipeline in the State of Maine. Submitted testimony to the Maine Public Utilities Commission describing the results (2014–2015).
- ***For an energy storage company*** – Developed an optimization analysis to evaluate the security, reliability, economic, and environmental benefits and costs of multiple battery storage installations across the Hawaiian Islands in different industry settings (renewable generator, island utility, military base, hotel/resort). Drafted a report presenting the results, considering the state’s unique energy price and fuel security context (2014–2015).
- ***For NYISO*** – Developed a model to compare cost, resource, and emission outcomes of alternative designs for a capacity market in the State of New York. Coauthored a report presenting the results of the analysis and a comprehensive review of the benefits and drawbacks of moving from a spot to a forward capacity market structure. Presented results to NYISO senior management and several meetings of New York electricity market participants and stakeholders (2014–2015).
- ***For multiple regional transmission organizations*** – Provided board of director- and senior management-level strategic support for considering the changing structures of retail regulation and wholesale market incentives within their regions (2014–2015).
- ***For Calpine Corporation*** – Provided testimony on the costs and benefits of different proposals for generation capacity in Florida (2014).
- ***For a regional transmission operator*** – Conducted an internal analysis of the financial risk associated with the RTO’s position in administering the trading of power system transmission rights (2014).
- ***For a regional transmission operator*** – Conducted a top-to-bottom review of the content and design of the RTO’s Rate Schedule 1 tariff for the collection of operational costs from market participants. Presented results of the analysis to the RTO’s board of directors and senior management (2014).
- ***For a retail electricity supplier*** – Provided analytic and strategic support with respect to the supplier’s participation in a state regulatory proceeding related to changing the nature of and rate structure for electric distribution service (2014).
- ***For Ambri Inc.*** – Led a study of the economic feasibility of using battery storage in conjunction with wind and solar for a micro-grid application (2013–2014).
- ***For Calpine Corporation*** – Provided testimony on the costs and benefits of different proposals for generation capacity in Minnesota (2013).
- ***For the New England Independent System Operator (ISO-NE)*** – Assisted on several projects related to addressing the co-dependence of electric and natural gas systems in New England through a mix of short- and long-term market rule changes and administrative actions. Assistance included

review of market structures to improve unit performance, particularly under stressed natural gas system conditions; quantification of the costs of potential natural gas and electric system infrastructure, and contractual responses to market rules and administrative actions (e.g., dual-fuel capability, new pipeline investment, LNG purchasing, and firm natural gas transportation agreements); and assistance with a series of discussions between ISO-NE and regional electricity and natural gas market participants. Also quantified the potential benefits of improved performance associated with reduced system interruptions (2012–2013).

- **For ISO-NE** – Developed an economic supply/demand model of the forward capacity market (FCM) to estimate the cost impact of integrating a new long-term performance incentive design element into the FCM auctions and pricing structure (2012–2013).
- **For Calpine Corporation** – Filed a report with EPA on the impact of emergency generation demand response programs on the costs and emissions associated with power system dispatch in the PJM electricity market (2012).
- **For ISO-NE** – Organized and helped lead a strategic planning initiative to address unit retirement, fuel mix, operational performance, and wind resource integration issues. Oversaw comprehensive generating unit performance analysis and electric-gas system risk review. Conducted a thorough internal risk assessment and key-challenge solution development. Facilitated meetings and developed organizational and concept documents to explore outcomes and assist in deliberations with states and regional industry stakeholders, and participated in external meetings to gain input and feedback (2010–2012).
- **For a regional transmission organization** – Conducted a top-to-bottom review of its external market monitoring function and a comprehensive best-practices survey of all internal and external market monitoring functions at US Regional Transmission Organizations and Independent System Operators (2012).
- **For a wind power development company** – Conducted a regional review of wind power development projects and an assessment of potentially valuable projects for acquisition based on power system location and siting viability (2012).
- **For an energy services company** – Oversaw and conducted an analysis of business, legal, and regulatory conditions related to a legal dispute over the legitimacy of a contract for energy and water management services. Coauthored a report to be used in the development of legal strategy and legal proceedings (2012).
- **For an international power company** – Conducted a review of a regional utility’s compliance with FERC requirements for transmission open access, and developed strategies for the filing of complaints of anticompetitive conduct before FERC (2011–2012).
- **For a regional transmission organization** – Comprehensively reviewed and suggested changes to the design of regional market structures; oversaw data review and analysis related to key market design features and asset performance (2011).
- **For Direct Energy** – Assisted with the development of strategies to increase retail choice in Pennsylvania, including the design of an opt-in descending-clock auction to increase migration from default service to competitive supply. Prepared comments and analysis on utility contract structures. Provided testimony before the Pennsylvania Public Utilities Commission (2011).
- **For Algonquin Gas** – Submitted affidavits and testified in bankruptcy court on the impact on power plant value of changes in market rules related to the forward capacity market in New England. Also provided testimony on the impact on power system reliability of the availability of firm transportation contracts for natural gas supplied to power plants in New England (2010).
- **For an independent system operator** – Conducted a best-practices and performance metrics analysis to benchmark the ISO’s performance against industry peers with respect to responsiveness to

consumers, stakeholders, and policymakers. Drafted a report with comprehensive benchmarking and performance metric recommendations; participated in stakeholder discussions (2010).

- ***For a power generators trade association*** – Developed and facilitated an all-day group discussion concerning key economic, environmental, legal, and policy challenges to the economic viability of existing and new power generation capacity in regional wholesale electricity markets (2010).
- ***For a coalition of electric companies*** – Coauthored a report, “Ensuring a Clean, Modern Electric Generating Fleet while Maintaining Electric System Reliability,” reviewing the impact on power plant operations of proposed EPA rules to reduce emissions of sulfur dioxide, nitrogen oxides, mercury, and other hazardous air pollutants. Presented findings to numerous regional and national industry and regulatory groups (2010).
- ***For an industry coalition*** – Conducted a study and coauthored a white paper (with Dr. Susan Tierney) for the New England Energy Alliance on New England energy infrastructure needs and policy issues (e.g., facility siting policies, RGGI/climate change) influencing the future addition of energy infrastructure in the region (2006).
- ***For an interstate pipeline company and offshore LNG developer*** – Authored a report related to recent developments in the supply and demand for natural gas in New England, and surveyed the development, regulatory and commercial status of proposed LNG projects across the US (2006); coauthored a Report (with Susan Tierney) providing an overview of Northeastern natural gas markets and conditions, and an assessment of natural gas supply and demand conditions (2005).
- ***For independent system operators*** – Managed several projects and coauthored reports or analyses for the Northeast region’s ISOs/RTOs, related to ISO/RTO annual strategic plans; market monitoring and mitigation best practices; and the links between wholesale electricity markets and local distribution company retail prices (2002–2006).
- ***For electric utilities*** – Managed or participated in numerous engagements with wires-only as well as vertically integrated electric utilities within New England and across the country related to rate case strategy and regulatory support; strategic planning; power supply resource planning and procurement (including the role of independent monitor of utility procurements); price and environmental analyses related to the siting of new high-voltage transmission lines; and evaluation of the allocation of SO₂ and NO_x emission allowances under the EPA Clean Air Interstate Rule (CAIR) program (2001–2006).
- ***For a developer of a land-based LNG facility*** – Assisted in the preparation of confidential reports on US natural gas supply/demand conditions, market pricing indices, US LNG facilities’ status, Northeast interstate and intrastate pipeline infrastructure conditions and prospects, and LNG supply contract prices, terms, and conditions (2006).
- ***For retail energy providers*** – Managed projects and authored or coauthored confidential reports on the experience with retail competition in the US, a benefit/cost analysis of wholesale electricity competition, and comparative analyses of retail electricity prices for utility and competitive retail suppliers in select states (2004–2006).
- ***For merchant generating companies/coalitions*** – Managed production cost dispatching analyses for strategic planning related to the construction of new generating capacity in New England; assisted in the development of regulatory proposals for new wholesale market organizations and policies in New England (2001–2002).
- ***For a renewable power developer association*** – Provided testimony on the potential negative effects – and remedial policy options – related to the impact of locational marginal pricing on the development and operation of renewable generating resources in New England (2001).
- ***For a major interstate pipeline owner/operator*** – Modeled the electrical load characteristics of pipeline operations and utility rate structures to quantify the extent to which the company was being

overcharged for electricity services. Supported company intervention in public utility commission proceedings and with analytical support in settlement negotiations (2002).

OTHER PROFESSIONAL ACTIVITIES

Advanced Energy Economy

Advisory Board (2011)

SELECTED REPORTS, TESTIMONY, PUBLICATIONS, AND PRESENTATIONS

“Carbon Pricing: This Is the Way,” presentation on a plenary panel to the New England Restructuring Roundtable, December 11, 2020.

“Approaches to Meeting Decarbonization Mandates: Important Decisions with Cost, Equity, and Reliability Implications,” presentation during the EUCI Decarbonization Summit on state decarbonization opportunities, December 9, 2020.

“Approaches to Meeting Decarbonization Mandates: Important Decisions with Cost, Equity, and Reliability Implications,” presentation during the New England Energy Summit (NEPGA) on state decarbonization opportunities, November 23, 2020.

Paul J. Hibbard and Pavel G. Darling, *Economic Impact of Stimulus Investment in Advanced Energy* (series of 10 state-specific reports), September–October 2020.

Paul J. Hibbard, Charles Wu, Hannah Krovetz, Tyler Farrell, and Jessica Landry, *Climate Change Impact and Resilience Study – Phase II: An Assessment of Climate Change Impacts on Power System Reliability in New York State*, September 2020.

Presented virtually at the Annual NECA Conference on how New England can transition away from fossil fuels, as well as the costs, reliability and societal implications of moving toward low carbon alternatives. September 30, 2020.

Paul J. Hibbard, Todd Schatzki, Charles Wu, Christopher Lopp, Matthew Lind, Kiernan McInerney, and Stephanie Villarreal, *Independent Consultant Study to Establish New York ICAP Demand Curve Parameters for the 2021/2022 through 2024/2025 Capability Years – Final Report*, September 9, 2020.

Paul J. Hibbard, Jonathan Baker, Mona Birjandi-Feriz, and Hannah Krovetz, *Utility energy efficiency program performance from a climate change perspective: A comparison of structural and behavioral programs*, August 2020.

“Energy Efficiency for Climate, Not Ratepayers” presentation on a plenary panel to the American Council for an Energy-Efficient Economy (ACEEE) Summer Study Session, August 19, 2020.

For the New England Power Generators Association (NEPGA), coauthored a report assessing the potential use of carbon pricing in New England. The analysis applied tested industry models to identify effective and efficient economy-wide pricing of carbon dioxide (CO₂) emissions consistent with New England states’ GHG emission reduction targets, June 23, 2020.

Joseph Cavicchi and Paul J. Hibbard, *Carbon Pricing for New England: Context, Key Factors, and Impacts*, June 2020.

“Decarbonization and Wholesale Markets in New England – Looking Ahead: Achieving 80% GHG Reduction by 2050,” presentation on a plenary panel to the Association of Energy Engineers Conference, “ISO-NE in 2050: Getting to an advanced energy future in New England,” Boston, MA, March 18, 2020.

“Decarbonization and Natural Gas in the Northeast,” panel moderator and presenter at the EUCI conference on Natural Gas Decarbonization, Denver, CO, January 22–23, 2020.

Paul J. Hibbard and Charles Wu, *Fuel and Energy Security in New York State: An Assessment of Winter Operational Risks for a Power System in Transition*, November 2019.

Susan F. Tierney and Paul J. Hibbard, *Clean Energy in New York State: The Role and Economic Impacts of a Carbon Price in NYISO’s Wholesale Electricity Markets*, October 2019.

“Natural Gas in Power Generation: Role Going Forward,” participant on a panel of industry experts at the 7th Annual Maine Natural Gas Conference to discuss power generation in the New England region. The panel focused on the role of natural gas, particularly in light of strong state policy initiatives to reduce GHG emissions. Falmouth, ME, October 3, 2019.

Direct testimony of Paul J. Hibbard before the New Hampshire public Utility Commission on the need for and economic and environmental impacts of proposed Liberty Utilities Granite Bridge pipeline and LNG project, Docket No. DG 17-152 June 28, 2019.

Rebuttal Testimony on Reopening of Paul J. Hibbard before the Illinois Commerce Commission on Behalf of Commonwealth Edison, Docket No. 18-0843, May 31, 2019.

Pre-filed Testimony of Paul J. Hibbard before the Connecticut Siting Council on behalf of NTE Connecticut LLC, Docket No. 470, January 18, 2019.

Susan F. Tierney, Paul J. Hibbard with Benjamin Dalzell, Grace Howland, Jonathan Baker, Tom Beckford, Sarah Centanni, Asie Makarova, and Scott Ario, *Vehicle Fuel-Economy and Air Pollution Standards: A Literature Review of the Rebound Effect*, June 28, 2018.

Paul J. Hibbard, Susan F. Tierney, and Pavel G. Darling, “An Expanding Carbon Cap-and-trade Regime? A Decade of Experience with RGGI Charts a Path Forward,” *The Electricity Journal*, June 2018.

Testimony of Paul J. Hibbard before the District of Columbia on behalf of AltaGas, Case No. 1142, May 25, 2018.

Paul J. Hibbard., Susan F. Tierney, Pavel G. Darling, and Sarah Cullinan, *The Economic Impacts of the Regional Greenhouse Gas Initiative on Nine Northeast and Mid-Atlantic States*, review of RGGI’s third three-year compliance period (2015–2017), April 2018.

Post-Settlement Testimony of Paul J. Hibbard before the Maryland Public Service Commission on behalf of AltaGas, Case No. 9449, January 5, 2018.

Rebuttal Testimony of Paul J. Hibbard before the Public Service Commission of the District of Columbia on behalf of AltaGas, Formal Case No. 1142, October 27, 2017.

Paul J. Hibbard, Todd Schatski, and Sarah Bolthrunis, *Capacity Resource Performance in NYISO Markets: An Assessment of Wholesale Market Options*, November 2017.

Paul J. Hibbard and Ellery Berk, *RGGI and Emissions Allowance Trading: Options for Voluntary Cooperation Among RGGI and Non-RGGI States*, July 2017.

“Analytical Issues in Linking,” presentation to the Virginia and the Regional Greenhouse Gas Initiative, Virginia Commonwealth University, Richmond, VA, July 12, 2017.

Paul Hibbard, Susan Tierney, and Katherine Franklin, *Electricity Markets, Reliability and the Evolving U.S. Power System*, June 2017.

Paul Hibbard, “Storage and Microgrids – New Applications,” panel presentation during the Electricity Advisory Committee’s Energy Storage Session, June 8, 2017.

Paul Hibbard, Craig Aubuchon, and Mike Cliff, *Evaluation of Vermont Transco, LLC Capital Structure*, October 2016.

Rebuttal Testimony of Paul J. Hibbard before the State of Vermont Public Service Board on behalf of Vermont Gas Systems Inc., Docket Nos. 8698 and 8710, September 26, 2016.

Susan Tierney, Paul Hibbard, and Ellery Berk, *RGGI and CO₂ Emissions Trading Under the Clean Power Plan: Options for Trading Among Generating Units in RGGI and Other States*, July 12, 2016.

Affidavit of Paul J. Hibbard before the FERC, Docket No. ER16-1751-000 on behalf of the NYISO, May 20, 2016.

Declaration of Paul J. Hibbard and Andrea M. Okie in the US Court of Appeals for the District of Columbia Circuit, Case No. 15-1363 (and consolidated cases) on behalf of multiple parties, December 8, 2015.

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