



2021 Reliability Leadership Summit

January 26-27, 2021

Agenda – 2021 Reliability Leadership Summit

January 26, 2021 | 1:00-5:00 p.m. Eastern | [Attendee WebEx Link](#)

January 26, 2021 | 5:30-6:30 p.m. Eastern | Virtual Reception | [Attendee WebEx Link](#)

January 27, 2021 | 1:00-5:00 p.m. Eastern | [Attendee WebEx Link](#)

January 26, 2021 | [Attendee WebEx Link](#)

Welcome Remarks

1:00–1:15 p.m.

Nelson Peeler, Senior Vice President, Transmission and Fuels Strategy and Policy, Duke Energy, and RISC Chair

Mark Lauby, Senior Vice President and Chief Engineer, NERC

Opening Keynote

1:15–1:45 p.m.

Cheryl LaFleur, Former Commissioner and Chairman, FERC

Panel 1 – Grid Transformation

1:45–2:45 p.m. - Panel

2:45–3:00 p.m. - Q&A

Panelists

Patricia Hoffman, Principal Deputy Assistant Secretary, Office of Electricity, DOE

Jesse Jenkins, Assistant Professor, Princeton University

Elliot Mainzer, President and Chief Executive Officer, California Independent System Operator

Julia Matevosyan, Lead Planning Engineer, ERCOT

Moderator

Mark Ahlstrom, Vice President, Renewable Energy Policy, NextEra Energy Resources and RISC Member

Public inputs along with the influence of regulatory and socioeconomic policies are continuing to drive a significant evolution in the mix of power resources. The shift away from conventional synchronous central-station generators toward a new mix of resources continues to challenge generation and grid planners and operators. This new paradigm of the resource mix includes natural-gas-fired generation; unprecedented proportions of non-synchronous resources, including renewables and battery storage; demand response; smart- and micro-grids; and other emerging technologies. The transformation of generating resources and fuel sources along with changes in load characteristics are creating new reliability risks from long and short-term planning to real-time operations. Impacts and considerations include: 1) Bulk power system planning; 2) Resource adequacy and performance; 3) Increased complexity in protection and control systems; 4) Situational Awareness challenges; 5) Human performance and skilled workforce; and 6) Changing resource mix.

This panel will discuss the transformation of the grid, the challenges that they pose for their integration, and reliability and security impacts and considerations.

Break

3:00–3:15 p.m.

Panel 2 – Extreme Natural Events

3:15–4:15 p.m. – Panel

4:15–4:30 p.m. – Q&A

Panelists

Ken Buell, Director of Emergency Recovery and Response, CESER, DOE

Carla Peterman, Senior Vice President Regulatory Affairs, Southern California Edison

Ken Peterson, Chair of the Board, BC Hydro

Jim Schott, Vice President of Transmission, Entergy Corporation

Moderator

Priti Patel, Vice President and Chief Transmission Officer, Great River Energy and RISC Member

Some extreme natural events (e.g., storms, wildfire) cause a significant proportion of major bulk power system impacts. Other extreme events (e.g. pandemics) are “people” events where staff availability can impact essential functions of system operations, maintenance, testing and construction, while at the same time creating uncertainty in load patterns and generation requirements. Natural events may affect bulk power system equipment, resources, or infrastructure required to operate the bulk power system. Certain events are unique to areas that they impact while others may have widespread impacts. Each type of event brings unique challenges from supply sufficiency, spare-parts availability, delivery, and restoration perspectives. Preparation and proactive planning of procedures and protocols are critical for utilities to assess and determine appropriate steps for both reliability and resiliency.

This panel will discuss any lessons learned and unique challenges posed by extreme natural events, and ways to prepare for them.

Open Discussion

4:30–4:45 p.m.

Moderators

Maury Galbraith, Executive Director, Western Interstate Energy Board and RISC Member

Jennifer Sterling, Vice President, NERC Compliance and Security, Exelon and RISC member

In this open-format discussion, this discussion will concentrate on distilling the observations and themes discussed in the earlier panels, identifying potential blind spots or risks not revealed during the Summit panels or from general industry experience, and outlining strategic approaches for consideration by the ERO Enterprise, industry, policy makers, regulators, and other stakeholders in addressing significant emerging reliability risks. Discussion items can be, but are not limited to, practical BPS operations and planning, policy development at the FERC, NERC, or Regional Entity level (e.g., standards and requirements), critical infrastructure protection, etc. See reference material: [2019 ERO Reliability Risk Priorities Report](#).

Wrap-up – Nelson Peeler, RISC Chair

4:45–5:00 p.m.

Virtual Reception | [Attendee WebEx Link](#)

5:30-6:30 p.m.

Dr. Peter Fox-Penner

January 27, 2021 | [Attendee WebEx Link](#)

Welcome Remarks

1:00–1:15 p.m.

Brian Slocum, Vice President of Operations for ITC Holdings Corp. and RISC Vice Chair

Mark Lauby, Senior Vice President and Chief Engineer, NERC

Opening Keynote

1:15–1:45 p.m.

Jacinda B. Woodward, Senior Vice President, Power Operations, Tennessee Valley Authority

Panel 3 – Security Risks

1:45–2:45 p.m. - Panel

2:45–3:00 p.m. - Q&A

Panelists

Dr. Marilyn Brown, Interim Chair, School of Public Policy, Georgia Institute of Technology

Manny Cancel, Senior Vice President and CEO, E-ISAC

Tom Galloway, President, Chief Executive Officer and Board Member Director, NATF

Michele Guido, Southern Company

Michael Russell, Manager Energy, Finance, and Telecommunications Sectors, Canadian Centre for Cyber Security

Moderator

Sylvain Clermont, Director, Protection, Automation and Control Systems Convergence, Hydro Quebec

Operational security is an essential component of a highly reliable bulk power system. Cyber and physical security are interdependent aspects as exploitation of either physical or cyber security risks could be used to compromise the other dimension. Resulting impacts could cause asset damage or loss of functionality and situational awareness needed to reliably operate or restore the bulk power system. Exploitation could occur directly against equipment used to monitor, protect, and control the bulk power system or indirectly through supporting systems, such as voice communications or interdependent critical infrastructure sectors and subsectors (e.g., water supply and natural gas used for electrical power generation). A coordinated cyber and physical attack scenario that is, potentially targeted to occur simultaneously with an extreme natural event, could further impact reliability and/or complicate recovery activities. A man-made electromagnetic pulse event targeted at the bulk power system may impact operations and result in damaged equipment that may require an extended period to replace.

This panel will focus on these risks, its evolution, and potential mitigations.

Break

3:00–3:15 p.m.

Panel 4 – Critical Infrastructure Interdependencies

3:15–4:15 p.m. – Panel

4:15–4:30 p.m. – Q&A

Panelists

Joy Ditto, President and Chief Executive Officer, American Public Power Association

Rod Kalbfleisch, Director of Substation Technical and Telecommunications Engineering, Eversource

Dena Wiggins, President and Chief Executive Officer, Natural Gas Supply Association

Moderator

Peter Brandien, Vice President, System Operations & Market Administration, ISO New England

Significant and evolving critical infrastructure sector (e.g., communications, water/wastewater) and subsector (e.g., oil, natural gas) interdependencies are not fully or accurately characterized, resulting in incomplete information about prospective bulk power system response to disruptions originating from or impacting other sectors or subsectors and resultant reliability and security implications.

This panel will explore the implications of the increased interdependencies, and how best to address the jurisdictional issues that need to be tackled to address the risks they present.

Open Discussion

4:30–4:45 p.m.

Moderators

Teresa Mogensen, Senior Vice President, Energy Supply, Xcel Energy

Woody Rickerson, Vice President, Grid Planning and Operations, ERCOT

In this open-format discussion, this discussion will concentrate on distilling the observations and themes discussed in the earlier panels, identifying potential blind spots or risks not revealed during the Summit panels or from general industry experience, and outlining strategic approaches for consideration by the ERO Enterprise, industry, policy makers, regulators, and other stakeholders in addressing significant emerging reliability risks. Discussion items can be, but are not limited to, practical BPS operations and planning, policy development at the FERC, NERC, or Regional Entity level (e.g., standards and requirements), critical infrastructure protection, etc. See reference material: [2019 ERO Reliability Risk Priorities Report](#).

Audience Interactive Poll

4:45-4:50 p.m.

Closing Remarks

4:50–5:00 p.m.

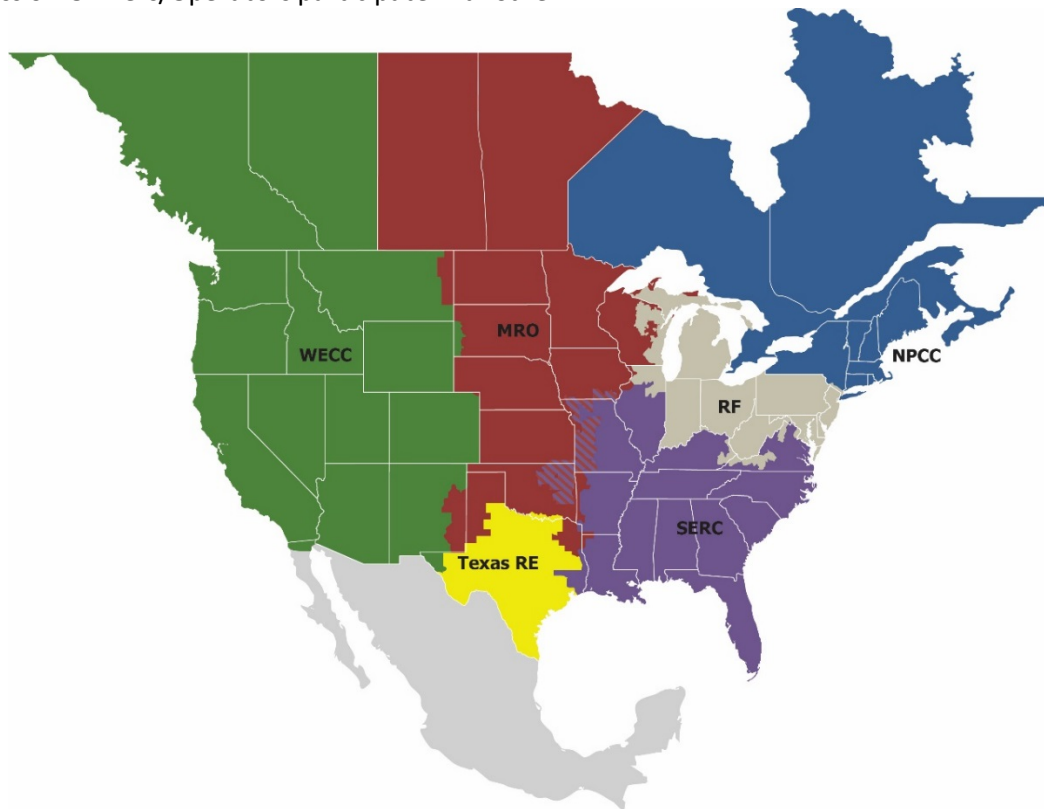
Jim Robb, President and Chief Executive Officer, NERC

Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (RE), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security
Because nearly 400 million citizens in North America are counting on us

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one Region while associated Transmission Owners/Operators participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

The Reliability Issues Steering Committee (RISC) is an advisory committee to the NERC Board of Trustees (Board). The RISC provides key insights, priorities, and high-level leadership for issues of strategic importance to BPS reliability. The RISC advises the Board, NERC committees, NERC staff, regulators, REs, and industry stakeholders to establish a common understanding of the scope, priority, and goals for the development of solutions to address emerging reliability issues. The RISC provides guidance to the ERO Enterprise¹ and the industry to effectively focus resources on the critical issues to improve the reliability of the BPS.

The purpose of the Reliability Leadership Summit is to gather industry leaders and keynote speakers to provide unique perspective into the key drivers of existing and emerging risks and use as a vehicle to prioritize identified risks as well as to potentially identify new and emerging risks. Panel sessions are put together to collaborate around key risks and mitigating strategies as well as to engage in meaningful debate about their relative importance and significance. The Reliability Leadership Summit serves as a key building block to the ultimate ERO Reliability Risk Priorities Report (see the 2019 [Reliability Risk Priorities Report](#) for background).

¹ ERO Enterprise is interpreted to mean NERC, the Regional Entities, and the technical committees of NERC.

Bios

RISC and NERC Leadership



Nelson Peeler

Senior Vice President, Transmission and Fuels Strategy and Policy, Duke Energy, and RISC Chair

Nelson Peeler serves as Duke Energy's senior vice president of transmission and fuels strategy and policy. He leads the newly formed organization responsible for developing strategies and investment proposals in alignment with the Clean Energy Plan to achieve transmission and fuel supply transformation objectives.

Prior to assuming his current position in July 2020, Peeler was the company's chief transmission officer. In this role since 2016, he oversaw the safe, reliable and efficient operation of Duke Energy's electric transmission system, which includes over 32,000 miles of high-voltage power lines and more than 3,000 substations in six states.

Peeler has more than 30 years of experience in the energy industry. He joined Duke Energy in 1988 and has held a variety of leadership positions in power delivery, system planning and operations, performance support, engineering, construction, business planning, contract management, process improvement and training.

He served as vice president of transmission system planning and operations, where he had responsibility for real-time monitoring and control of the company's bulk electric transmission system. He also served on the merger integration teams leading up to Duke Energy's mergers with Cinergy in 2006 and Progress Energy in 2012.

The Faith, N.C., native graduated from North Carolina State University with a bachelor's degree in electrical engineering and an MBA from Queens University. He is a registered professional engineer in North Carolina and South Carolina.

Peeler currently serves on the boards of directors of the SERC Reliability Corporation and the Florida Reliability Coordinating Council. He is a current board member and former board chair of the North American Transmission Forum and serves as chair of the Reliability Issues Steering Committee (RISC) for the North American Electric Reliability Corporation (NERC). Additionally, he is president of the North Carolina State Engineering Foundation and a member of the N.C. State Electrical and Computer Engineering Hall of Fame.



Brian Slocum

Vice President of Operations for ITC Holdings Corp. and RISC Vice Chair

Brian Slocum is Vice President of Operations for ITC Holdings Corp. In this role he has responsibility for control room and system operations that support ITC's four operating companies, Safety, Human Performance, Security, Emergency Preparedness and Response, and is the company's NERC Compliance Officer. Mr. Slocum previously served as Vice President of Engineering, where he was responsible for the Design, Project Engineering and Asset Management functions in support of the capital and maintenance programs at the aforementioned operating companies. Mr. Slocum's background also includes extensive experience in the planning functions at ITC. Prior to joining ITC in 2003, he worked at Detroit Edison in the industrial power, sub-transmission planning, and distribution planning and operations areas.

Mr. Slocum serves on the Advisory Board for the Michigan Intelligence Operations Center for Homeland Security and the board of Crossroads Farm, a non-profit organization based in Reading, Michigan. He is Vice Chair of the Reliability Issues Steering Committee of NERC and a member of the Practices Advisory Group at the North American Transmission Forum.

Mr. Slocum serves on the Advisory Board for the Michigan Intelligence Operations Center for Homeland Security and the board of Crossroads Farm, a non-profit organization based in Reading, Michigan. He is Vice Chair of the Reliability Issues Steering Committee of NERC and a member of the Practices Advisory Group at the North American Transmission Forum.

Mr. Slocum earned a Bachelor of Science in Electrical Engineering from Wayne State University and a Master of Business Administration with distinction from University of Michigan-Dearborn. Mr. Slocum is a registered professional engineer in the state of Michigan.



Jim Robb

President and Chief Executive Officer, NERC

James B. Robb assumed the role of president and chief executive officer of NERC in April 2018. Mr. Robb oversees NERC's mission of assuring the reliability and security of the North American bulk power system. As president and CEO, Mr. Robb directs key programs affecting more than 1,400 bulk power system owners, operators, and users, including mandatory NERC Reliability Standards, compliance monitoring, enforcement, situational awareness, event and risk analysis, reliability assessments and forecasting, cyber and physical security, and government relations. Mr. Robb also oversees the operations of the Regional Entities who support the reliability mission across North America.

From 2014 to 2018, Mr. Robb served as president and CEO of the Western Electricity Coordinating Council (WECC) where he was responsible for the strategic direction and leadership of all of WECC's activities.

Mr. Robb has more than 30 years of experience in the energy sector as an engineer, a consultant, and a senior executive. Prior to becoming WECC's CEO in 2014, he held three major leadership roles in the industry at Northeast Utilities (now Eversource Energy) as senior vice president of Enterprise Planning and Development; at Reliant Energy (now part of NRG Energy) where he served as senior vice president of Retail Marketing for the competitive retail business in Texas and the Northeast; and at McKinsey & Company where he was a partner and the leader of the West Coast's Energy and Natural Resource Practice. During his 15-year career at McKinsey, he worked closely with prominent electric power companies in California, western Canada, the Pacific Northwest, and the Rocky Mountain states, as well as with some of the region's largest energy consumers.

Mr. Robb earned a bachelor's degree in Chemical Engineering from Purdue University in Indiana and a master's degree in Business Administration from the Wharton School of Business at the University of Pennsylvania, Philadelphia, PA.



Mark Lauby

Senior Vice President and Chief Engineer, NERC

Mark Lauby is senior vice president and chief engineer at NERC. Mr. Lauby joined NERC in January 2007 and has held a number of positions, including vice president and director of Standards and vice president and director of Reliability Assessments and Performance Analysis.

In 2012, Mr. Lauby was elected to the North American Energy Standards Board and was appointed to the Department of Energy's Electric Advisory Committee by the Secretary of Energy from 2013–2017. From 1999 to 2007, Mr. Lauby was appointed as a member of the Board of Excellent Energy International Co., LTD, an energy service company based in Thailand. He has been recognized for his achievements by many technical associations, including the 1992 IEEE Walter Fee Young Engineer of the Year Award. He was named a Fellow by IEEE in November 2011 for "leadership in the development and application of techniques for bulk power system reliability," and in 2014, Mr. Lauby was awarded the IEEE Power and Energy Society's Roy Billinton Power System Reliability Award. In 2020, the National Academy of Engineering (NAE) elected Mr. Lauby as a member, citing his development and application of techniques for electric grid reliability analysis.

Prior to joining NERC, Mr. Lauby worked for the Electric Power Research Institute (EPRI) for 20 years, holding a number of senior positions, including: director, Power Delivery and Markets; managing director, Asia, EPRI International; and manager, Power System Engineering in the Power System Planning and Operations Program. Mr. Lauby began his electric industry career in 1979 at the Mid-Continent Area Power Pool in Minneapolis, Minnesota. His responsibilities included transmission planning, power system reliability assessment and probabilistic evaluation.

Mr. Lauby is the author of more than 100 technical papers on the subjects of power system reliability, expert systems, transmission system planning, and power system numerical analysis techniques. Mr. Lauby served as chair and is a life member of the International Electricity Research Exchange and served as chair of a number of IEEE working groups. He earned his bachelor's and master's degrees in Electrical Engineering from the University of Minnesota. In addition, Mr. Lauby attended the London Business School Accelerated Development Program as well as the Executive Leadership Program at Harvard Business School.

Keynote Speakers



Cheryl LaFleur

Former Commissioner and Chairman, FERC

Cheryl A. LaFleur is a nationally-recognized energy leader. She serves as Distinguished Visiting Fellow at the Columbia University Center on Global Energy Policy, focusing primarily on the adaptation of the electric and natural gas sectors to the challenges of climate change. LaFleur also serves on the Board of Directors of ISO New England, the organization that plans and operates the power system and administers wholesale electricity markets for New England.

Previously, LaFleur was one of the longest-serving commissioners on the Federal Energy Regulatory Commission (FERC), nominated by President Obama in 2010 and serving until 2019. She served as Chairman from 2014-15 and as Acting Chairman from 2013-14 and during 2017. During a decade of change in the nation's energy industry, power supply, and political leadership, she helped FERC respond to challenges and opportunities across the electric, natural gas, and oil sectors. She has been recognized with several awards for energy policy and leadership, including the Carnot Prize for leadership in energy policy, the Vanguard Award for leadership on energy markets, and a Bipartisan Congressional Award for leadership in addressing emerging hazards to the grid.

Earlier in her career, LaFleur had more than 20 years' experience as a leader in the electric and natural gas industry, including as executive vice president and acting CEO of National Grid USA. She began her career as an attorney at Ropes and Gray in Boston. She has also served on several nonprofit and community boards, and currently serves on the Trustee Advisory Board of Beth Israel Deaconess Medical Center. She has a J.D. from Harvard Law School, and an A.B. from Princeton University.



Jacinda B. Woodward

Senior Vice President, Power Operations, Tennessee Valley Authority

Jacinda joined TVA in 1984 and has worked in a number of business units throughout her career in assignments including design, maintenance, operations, program development, and project management prior to becoming an officer of the company. She is currently Senior Vice President, Power Operations. In this role, she is responsible for the operation and maintenance of TVA's coal-fired, natural gas combustion turbine and hydropower generation assets, providing over 25,000 MWs of generating capacity to meet TVA service territory needs.

Prior to her current assignment, Jacinda was Senior Vice President of Resources & River Management, a business unit responsible for personnel and public safety, environmental operations and compliance, TVA building facilities maintenance, management of the 5th largest river system in the country and stewardship of the 293,000 acres of public lands for which TVA is responsible. Jacinda also served as Senior Vice President, Transmission & Power Supply. This business unit is responsible for the planning, design, construction, maintenance and real-time operation of TVA's transmission system-- the largest public power system in the country. This business unit also has responsibility for TVA's generation unit commitment and dispatch, power trading and power acquisition as well as reliability coordination services for seven electric utilities in parts of eleven states.

She served as Vice President, Transmission Reliability & Operations, a business unit responsible for real-time power system operation with accountability for transmission operations, reliability coordination, transmission provider services, balancing authority, and operational planning functions and as Vice President, Power Control Systems, a business unit responsible for TVA's SCADA and telecommunications systems used for control and visibility of TVA's power system.

Jacinda earned a Bachelor of Science degree in electrical engineering from Auburn University in 1988. She is a registered professional engineer in the state of Tennessee.

Panel 1 – Grid Transformation



Patricia Hoffman

Principal Deputy Assistant Secretary, Office of Electricity, U.S. Department of Energy

Serving as the Principal Deputy Assistant Secretary for the Office of Electricity (OE) at the U.S. Department of Energy (DOE), Ms. Patricia A. Hoffman also served as Acting Under Secretary for Science and Energy from January 2017 until November 2017 when the U.S. Senate confirmed Mark Menezes as Under Secretary of Energy. Ms. Hoffman served as Acting Assistant Secretary for OE from January 2017 until October 2017 when the OE Assistant Secretary was confirmed by the U.S. Senate.

Ms. Hoffman was named Assistant Secretary for OE from June 2010 to January 2017, after serving as Principal Deputy Assistant Secretary since November 2007. The focus of her responsibility was to provide leadership on a national level to modernize the electric grid, enhance the security and reliability of the energy infrastructure and facilitate recovery from disruptions to the energy supply both domestically and internationally. This is critical to meeting the Nation's growing demand for reliable electricity by overcoming the challenges of our Nation's aging electricity transmission and distribution system and addressing the vulnerabilities in our energy supply chain.

Prior to her current position, Ms. Hoffman served in a dual capacity as Deputy Assistant Secretary (DAS) for Research and Development (R&D) and Chief Operating Officer (COO) within OE. During her tenure as the DAS for R&D, she developed the long-term research strategy and improved the management portfolio of research programs for modernizing and improving the resiliency of the electric grid. This included developing and implementing sensors and operational tools for wide-area monitoring, energy storage research and demonstration and the development of advanced conductors to increase the capacity and flexibility of the grid. She also initiated a new research effort focused on integrating and distributing renewable energy through the electric grid, such as promoting plug-in hybrid electric vehicles and implementing smart grid technologies to maintain system reliability. As COO, she managed the OE business operations, including human resources, budget development, financial execution, and performance management.

Prior to joining OE, she was the Program Manager for the Federal Energy Management Program within the Office of Energy Efficiency and Renewable Energy at DOE. This program guides the Federal government to "lead by example" promoting energy efficiency, renewable energy and smart energy management. Complementing her building energy efficiency experience, she also was the Program Manager for the Distributed Energy Program, which conducted research on advanced natural gas power generation and combined heat and power systems. Her accomplishments included the successful completion of the Advanced Turbine System program resulting in a high-efficiency industrial gas turbine power generation product. Ms. Hoffman holds a Bachelor of Science and a Master of Science in Ceramic Science and Engineering from Pennsylvania State University.



Jesse Jenkins

Assistant Professor, Princeton University

Jesse Jenkins is an assistant professor at Princeton University with a joint appointment in the Department of Mechanical and Aerospace Engineering and the Andlinger Center for Energy and Environment and courtesy appointments at the School of Public and International Affairs and the High Meadows Environmental Institute. He is a macro-scale energy systems engineer with a focus on the rapidly evolving electricity sector, including the transition to zero-carbon resources, the proliferation of distributed energy resources, and the role of electricity in economy-wide decarbonization. Jesse leads the Princeton ZERO Lab (Zero-carbon Energy systems Research and Optimization Laboratory), which focuses on improving and applying optimization-based energy systems models to evaluate low-carbon energy technologies and generate insights to guide policy and planning decisions in national and sub-national jurisdictions transitioning to net-zero emissions energy systems. Jesse earned a PhD and SM from MIT, worked previously as a postdoctoral fellow at the Harvard Kennedy School, and spent six years as an energy and climate policy analyst prior to embarking on his academic career.



Elliot Mainzer
President and Chief Executive Officer

Elliot Mainzer is the President and Chief Executive Officer of the California Independent System Operator (ISO). The ISO is responsible for managing the flow of electricity that serves 80 percent of California and a small portion of Nevada. The CAISO also runs a real-time energy market for utilities in eight western US states and conducts reliability coordinator services for most balancing authorities in the West.

Mr. Mainzer is committed to using leading-edge policies and new technologies to accelerate California's drive towards the reliable decarbonization of its electric power grid. He started in his new role at the ISO on September 30, 2020 following a successful 18-year career at the Bonneville Power Administration (BPA) where he was at the forefront of transformational changes in the western electricity market.

While serving as BPA's administrator and CEO from 2013-2020, Mr. Mainzer effectively navigated the agency through a period of tremendous industry change and economic headwinds by improving the agency's long-term cost competitiveness and financial resiliency, modernizing assets and system operations, and positioning BPA as a more responsive and agile business partner.

In recent years, Mr. Mainzer has co-chaired the Western Electric Industry Leaders Group to support greater western market and policy coordination on such topics as resource adequacy, transmission development, and carbon accounting. He has also served as the Chair of the U.S. Entity for the Columbia River Treaty with Canada and on the boards of the Electric Power Research Institute, and the Utility Wind Integration Group.

A native of San Francisco, Mr. Mainzer has an undergraduate degree in geography from U.C. Berkeley, and master's degrees in Business Administration and Environmental Studies from Yale University. Mainzer and his wife Margaret have twin boys. He is also an amateur jazz saxophonist and dedicated student of jazz theory and history.



Julia Matevosyan
Lead Planning Engineer, ERCOT

Julia Matevosyan is Lead Planning Engineer at the Electric Reliability Council of Texas (ERCOT), Resource Adequacy Group, primarily working on adequacy of system inertial response, system flexibility, frequency control and performance issues related to high penetration levels of inverter-based generation. Her other interests are integration of storage, hybrids and distributed generation. Julia is a member of CIGRE Working Group C2/C4.41 "Impact of High Penetration of Inverter-based Generation on System Inertia of Networks" and serves on a number of the technical advisory committees for projects related to high penetration of inverter-based generation carried out by NREL, EPRI, NERC, Hawaiian Electric, Xcel Energy and the EU-SysFlex project consortium.

Julia received her BSc from Riga Technical University in Latvia, and her MSc and PhD from the Royal Institute of Technology (KTH) in Sweden. Prior to joining ERCOT she was with the consulting firms Parsons Brinkerhoff (now WSP) and Sinclair Knight Merz (now Jacobs), working primarily on system planning studies, grid interconnection and grid code compliance studies for wind power plants around the world.

Moderator



Mark Ahlstrom
Vice President, Renewable Energy Policy, NextEra Energy Resources and RISC Member

Mark Ahlstrom is Vice President of Renewable Energy Policy for NextEra Energy Resources and NextEra Analytics. He serves on NERC's Reliability Issues Steering Committee and for more than 17 years has worked on the reliable integration of variable generation into power systems and markets. Earlier, he was founder of two software companies. He is also President of the Board of Directors of the Energy Systems Integration Group (www.ESIG.energy), the non-profit technical collaboration association for engineers, system operators, researchers and policymakers working on our evolving energy systems.

Panel 2 – Extreme Natural Events

Ken Buell

Director of Emergency Recovery and Response, CESER, DOE



Carla Peterman

Senior Vice President Regulatory Affairs, Southern California Edison

Carla Peterman is senior vice president of Strategy and Regulatory Affairs at Southern California Edison (SCE), one of the nation's largest electric utilities. She is responsible at the national and state levels for the company's Regulatory Affairs, Energy and Environmental Policy, Strategic Planning, and Resource and Environmental Planning and Strategy organizations, overseeing regulatory strategy and operations and environmental affairs.

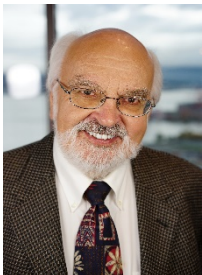
Previously, Peterman served a six-year term on the California Public Utilities Commission (CPUC), from 2013 to 2018. She led several CPUC clean-energy initiatives, including the adoption of the nation's first electric utility energy storage mandate, approval of \$965 million of utility investments in electric vehicle charging infrastructure, adoption of utility energy-efficiency goals, and the continued implementation of California's Renewables Portfolio Standard.

Before her CPUC appointment, Peterman served on the California Energy Commission, where she was the lead commissioner for renewables, transportation, and natural gas. She also is a former board member of The Utility Reform Network, an organization that represents consumers before the CPUC and California Legislature.

She was appointed in 2019 by California Gov. Gavin Newsom to chair the Commission on Catastrophic Wildfire Cost and Recovery, which played a critical role in developing recommendations that led to passage of legislation that holds utilities accountable for reducing wildfire risks from their equipment and encourages a financially stable electric industry.

Peterman holds a Doctor of Philosophy degree in energy and resources from the University of California, Berkeley. She also earned a Master of Science and Master of Business Administration from Oxford University, where she was a Rhodes scholar. She earned a Bachelor of Arts from Howard University.

Peterman serves on the external advisory board for Sandia National Laboratories' Energy and Homeland Security Portfolio. She has also served on the board of the National Association of Regulatory Utility Commissioners, was a member of the California Broadband Council, and served as Chair of the California Plug-in Electric Vehicle Collaborative.



Ken Peterson

Chair of the Board, BC Hydro

Ken Peterson's 40-year career spans a wide range of assignments in the electricity industry. He first started working with BC Hydro in 1977, during this time with the company he helped design BC Hydro's initial Power Smart program which was the first major demand-side management program in Canada. The last 10 years of his professional career were spent as CEO of Powerex, the marketing and trading subsidiary of BC Hydro.

Ken has served as a trustee of the North American Electric Reliability Corporation between 2006 and 2017, where he applied his industry experience to the physical and cyber-security reliability challenges facing utilities.

Ken has a Bachelor of Arts degree in economics from the University of British Columbia and a Master of Arts degree in economics from Northwestern University.



Jim Schott

Vice President of Transmission, Entergy Corporation

Jim Schott is vice president of Entergy Corporation's transmission function, a role in which he has served since June 2015. Entergy's transmission system consists of over 15,000 miles of high voltage transmission lines in Arkansas, Louisiana, Mississippi and southeast Texas. His scope of responsibilities covers planning, engineering, construction, operations and maintenance of this system.

In Schott's previous role as vice president of supply optimization with Entergy Services, Inc., he led generation growth initiatives for Entergy's utility operating companies.

Schott began his Entergy career in 1990 at Gulf States Utilities and has held leadership positions in generation, capital projects, system planning and operations at Entergy.

He also previously served as vice president of power plant operations in the company's steam and renewables division, where he led more than 500 employees to ensure safe operation and maintenance of 10,000 megawatts of generation.

Schott holds a bachelor of science degree from Loyola University and a master's of science degree in chemical hazard assessment from the University of Pittsburgh. He is a member of the SERC Board of Directors Executive Committee, Southeast Electric Exchange Executive Committee, and Visiting Committee for the Loyola University College of Arts and Sciences.

Moderator



Priti Patel

Vice President and Chief Transmission Officer, Great River Energy and RISC Member

With more than 20 years of electric utility experience, Priti Patel oversees Great River Energy's transmission business. Her responsibilities include oversight of all aspects of transmission, including investment strategy, planning, permitting, construction, maintenance, engineering, project management, and field and system operations.

Prior to joining GRE in 2017, Patel served in management roles at the Midcontinent Independent System Operator (MISO) in the areas of transmission system planning, competitive transmission development, and regulatory and member relations. She led the development of MISO's Competitive Transmission Developer Selection Process under FERC Order 1000 and the selection of the first competitive transmission project in its operating footprint.

Prior to MISO, Patel served in management roles at Xcel Energy in the areas of transmission and corporate strategy and planning, and as an assistant general counsel. She served as the organization's lead counsel and co-executive director for the CapX2020 transmission expansion initiative, an 11-utility joint initiative to plan, develop and build more than 700 miles of high-voltage transmission across four Upper Midwestern states, totaling nearly \$2B. She began her career as an attorney at the Minnesota Attorney General's Office and in a private law practice.

Patel currently serves on the board of directors for WIRES, an international trade association focused on planning and investing in North America's high-voltage transmission infrastructure, and Great Plains Institute, an organization dedicated to transforming the energy system to benefit the economy and environment.

Panel 3 – Extreme Natural Events



Dr. Marilyn Brown

Interim Chair, School of Public Policy, Georgia Institute of Technology

Dr. Marilyn A. Brown is Chair of the School of Public Policy at the Georgia Institute of Technology where she created and co-leads the Climate and Energy Policy Lab and the Master of Sustainable Energy and Environmental Management. Her research focuses on the design and modeling of energy markets and carbon reduction policies and programs, highlighting opportunities on the customer side of the electric meter—including energy end-use efficiency, rooftop-solar systems, vehicle to grid interactions, smart thermostats, and home storage devices. Using data analytics and energy-engineering models, she examines technology and market transitions at the local, regional, and global scale.

In 2019, she began the multi-year Drawdown Georgia project, an initiative to identify a strategy to significantly cut the carbon footprint of the State of Georgia. Prior to Georgia Tech, she worked at Oak Ridge National Laboratory, where she held various leadership positions in energy efficiency and renewable energy. From 2010-2017, Dr. Brown served two terms as a Presidential appointee to the Board of Directors of the Tennessee Valley Authority, the nation's largest public power provider. From 2014-2018 she served two terms on the U.S. Department of Energy's Electricity Advisory Committee where she chaired the Smart Grid Subcommittee. She has written 6 books on the clean energy transition and in 2007, she became a Nobel Laureate for her work with the Intergovernmental Panel on Climate Change.



Manny Cancel

Senior Vice President and CEO, E-ISAC

Manny Cancel assumed the role as NERC senior vice president and chief executive officer of the Electricity Information Sharing and Analysis Center (E-ISAC) in January 2020. He is responsible for the management and oversight of the E-ISAC and leading security operations and information sharing, threat intelligence and analysis, and stakeholder engagement initiatives designed to protect critical electricity infrastructure in North America. Mr. Cancel also serves as the E-ISAC's key representative to important constituencies, such as the Electricity Subsector Coordinating Council (ESCC), government partners, and key industry groups and leads the E-ISAC's strategic planning initiatives.

Prior to joining NERC, Mr. Cancel served as Con Edison's chief information officer (CIO) leading all aspects of information technology, including cyber security initiatives. In this capacity, he also supported various industry initiatives, serving as chair of the sector's Cyber Mutual Assistance Program and supporting the Member Executive Committee (MEC), an advisory group formed out of the ESCC that provides guidance to the E-ISAC.

Prior to assuming the role of CIO at Con Edison, Mr. Cancel held various roles over his 39-year career, including leadership roles in operations, customer service, audit, and information technology.

Mr. Cancel earned a bachelor's degree in Business Administration from Baruch College and a master's degree in Business Administration from the Johnson School at Cornell University.



Tom Galloway

President, Chief Executive Officer and Board Member Director, NATF

Thomas J. Galloway serves as the president, CEO, and a board member director for the North American Transmission Forum (NATF). As CEO, Mr. Galloway formulates strategy, leads staff, and facilitates member activities to advance NATF's mission: to promote excellence in the reliable, resilient, and safe operation of the electric transmission system. Under Mr. Galloway's direction, NATF operates rigorous programs used to confidentially share superior practices among members and promote continuous improvement. These program areas include peer reviews, assistance, practices, operating experience, and metrics. Mr.

Galloway has promoted NATF's increasing leadership role on key industry topics including supply chain cyber security, risk informed approaches to reliability and compliance, and methods to quantify system resilience.

Mr. Galloway began his professional career in 1981 with Northeast Utilities, holding a variety of engineering and managerial roles. Mr. Galloway continued his career with the Institute of Nuclear Power Operations (INPO) for the next 10 years, gaining valuable experience and skills related to human performance, organizational effectiveness, operational excellence, and performance improvement. Mr. Galloway subsequently served as SERC Reliability Corporation's vice president and director of compliance. In this role, Mr. Galloway was responsible for implementation of the NERC Compliance Monitoring and Enforcement Program (CMEP) within the SERC region. Immediately prior to joining NATF, Mr. Galloway was NERC's chief reliability officer and the senior vice president for the Reliability Performance organization. During Mr. Galloway's nearly 10 years as NATF's CEO, the membership has grown significantly and has made increasingly positive impacts on transmission reliability, resilience, and safety. Mr. Galloway continues to be driven by his passion for electric system reliability and the recognition of the critical role electricity plays in everyday life.



Michele Guido

Strategic Security Policy Director, Southern Company

Michele Guido is the Strategic Security Policy Director for Southern Company with a portfolio supporting national security strategy, programs, policy and partnerships. Michele has 30 plus years' experience in the business continuity, disaster recovery, crisis management and emergency response industry for critical infrastructure. Prior to joining Southern Company in 2004, Michele was employed at IBM, BellSouth and Federated Systems Group.

Michael Russell

Manager Energy, Finance, and Telecommunications Sectors, Canadian Centre for Cyber Security

Michael is responsible for the Canadian Centre for Cyber Security's partnerships with organizations in the Energy, Finance, and Telecommunications critical infrastructure sectors. The Partnerships group is responsible for working collaboratively with Canadian critical infrastructure organizations to strengthen cyber security practices in Canada.

Michael began his career at the Communications Security Establishment (CSE) in 2003 and has held positions in cyber security development and operations, supply chain cyber security, information technology product assurance, standards development, and critical infrastructure partnerships. He has worked for the Canadian Centre for Cyber Security since its inception in October 2018.

Michael holds a Baccalaureate in Science in Mathematics and Computer Science from the University of Ottawa and a Master of Mathematics in Combinatorics and Optimization from the University of Waterloo.

Moderator



Sylvain Clermont

Director, Protection, Automation and Control Systems Convergence, Hydro Quebec and RISC Member

Sylvain has more than 25 years of experience in the electricity industry managing teams in grid digitalization, energy transition, reliability standards and compliance, in transmission services, in design of protection, automation and control systems and in SCADA/EMS replacement.

At Hydro-Québec - TransEnergie, he currently leads the transmission transformational projects in grid digitalization, as a senior manager.

Previously, he was responsible for reliability standards and compliance. In that position, he had a corporate role in governance of compliance. He has testified often in regulatory and legal cases.

Sylvain chairs and participates in important working and policy groups in Canada and across North America related to network reliability, where his leadership is recognized. He is currently member of the NATF Board and of NERC's Member Representatives Committee (MRC) which he chaired in 2015. He has extensive knowledge of the North American integrated regulatory and operational framework.

He graduated from École Polytechnique de Montréal in Physics Engineering. He also completed a Master degree in power system control at École Polytechnique.

Panel 4 – Critical Infrastructure Interdependencies



Joy Ditto

President and Chief Executive Officer, American Public Power Association

Joy Ditto became the American Public Power Association's president and CEO on January 13, 2020. Before that, she was the president and CEO of the Utilities Technology Council, a global trade association representing electric, gas, and water utilities on their mission-critical information and communications technologies. Before joining UTC, Joy was with the American Public Power Association for 15 years, rounding out her tenure as the senior vice president for legislative and political affairs.

Earlier, Joy spent seven years on Capitol Hill, as legislative assistant to two representatives from Pennsylvania — Joe McDade (R), and Don Sherwood (R) — and a senator from Nebraska, Chuck Hagel (R). She was a staff assistant to Senator John McCain (R-AZ) in her first job out of college. Joy advised her bosses on issues involving natural resources, agriculture, trade, tax, banking, the justice system, environment, and energy.

As a "Marine Corps brat," Joy learned early that relationships are key to success, as are a willingness to work hard and an ability to see both "the forest and the trees."

Joy is a graduate of Vanderbilt University with a BA in history and minor in political science and has received an executive certificate in nonprofit management from Georgetown University.



Rod Kalbfleisch

Director of Substation Technical and Telecommunications Engineering, Eversource

Rod is the Director of Substation Technical and Telecommunications Engineering at Eversource Energy (formerly Northeast Utilities). He currently leads several teams responsible for Substation equipment, commissioning and monitoring in CT, MA and NH. He also leads the Telecommunications team that is responsible for the planning and engineering of the fiber and wireless systems across Eversource.

Rod's education includes a Bachelor of Science degree in Mathematics from Roberts Wesleyan College, a Bachelor of Science degree in Electrical & Computer Engineering from Clarkson University and a Masters of Management and Finance from Rensselaer Polytechnic Institute (RPI). He has over 30 years of experience at Eversource Energy in a wide variety of leadership roles including: Operations, Construction, Outage Management, Meter Assets and Operations, Control Centers (Transmission, Distribution and Gas), SCADA, Distribution Automation, Telecommunications Engineering and Information Technology (IT).

Rod also serves as the Chairman of the Transmission Lines and Substations Committee at Edison Electric Institute.

Rod is involved in community service organizations in central Connecticut.



Dena Wiggins, President and Chief Executive Officer, Natural Gas Supply Association

Dena E. Wiggins is President and CEO of the Natural Gas Supply Association (NGSA), representing major integrated and independent natural gas producers in the U.S. She joined NGSA in 2014.

As President of NGSA, Wiggins leads the association's efforts to encourage the supply and use of natural gas and promotes the benefits of competitive markets. Following the Center for LNG (CLNG) merger with NGSA, she also steers CLNG.

Wiggins also represent NGSA on the Commodity Futures Trading Commission's Energy and Environmental Markets Advisory Committee, which advises the CFTC on preserving market integrity and competition in energy futures markets, among other issues. She also currently serves on the Board of NAM's Council of Manufacturing Associations as well as the Board of the British-

American Business Association. In addition, she serves on the Advisory Council of New Mexico State University's Center for Public Utilities and is a member of the Council Group of the American Bar Association's Infrastructure and Regulated Industries Section.

Previous to NGSA, she was a partner at the firm of Ballard Spahr and served as General Counsel to the Process Gas Consumers Group. She holds a Bachelor of Arts degree from the University of Richmond and a Juris Doctor from Georgetown University Law Center.

Moderator



Peter Brandien

Vice President, System Operations & Market Administration, ISO New England and RISC Member

As Vice President, System Operations & Market Administration, Peter is responsible for the day-to-day operations of the New England bulk power system and ensuring the fair administration of the region's wholesale electricity markets. This includes the Day-Ahead Energy & Load Response Markets, the Real-Time Energy, Reserve & Regulation Markets and the Financial Transmission Rights & Forward Reserve Market Auctions, transmission and generation outage coordination, system restoration, operator training, NERC/NPCC compliance, and development of operating procedures. Additional responsibilities includes the registration, auditing and verification of performance for Demand Resources as well as Generator Assets.

Prior to ISO New England Peter was an employee of Northeast Utilities for seventeen years. At Northeast Utilities, he held various management positions in transmission engineering, operations and planning. Prior to Northeast Utilities Peter served in the U.S. Navy Submarine Force and holds a Bachelor of Science degree in Electrical Engineering.

Open Discussions Moderators



Maury Galbraith

Executive Director, Western Interstate Energy Board and RISC Member

Maury Galbraith is the Executive Director of the Western Interstate Energy Board (WIEB). He manages the efforts of WIEB to facilitate cooperation among western U.S. states and Canadian provinces to improve the efficiency of the western electric power system. He also manages the work of the Western Interconnection Regional Advisory Body (WIRAB) – which provides advice to the Federal Energy Regulatory Commission (FERC) to improve the reliability of the western grid.

Prior to joining WIEB, Mr. Galbraith was the Administrator of the Energy Division at the Oregon Public Utility Commission and a Senior Policy Advisor at the U.S. Forest Service, Pacific Northwest Research Station. Previously he worked as a Resource Analyst with the Northwest Power and Conservation Council. Maury holds a M.A. in economics from Washington State University and a B.S. in economics from the University of Oregon.



Jennifer Sterling

Vice President, NERC Compliance and Security, Exelon and RISC Member

Jennifer holds a Bachelor of Science degree in Electrical Engineering as well as a Master of Science degree in Electrical Engineering both from the University of Illinois – Urbana-Champaign. She is a registered Professional Engineer in the State of Illinois.

In her current role, she is responsible for the oversight of the NERC Reliability Standards Compliance Program for all of the Exelon NERC Registered Entities. In addition, she is responsible for oversight of the physical security programs and projects for the Exelon Utilities' electric and gas facilities as well as office buildings. She has held positions as the Exelon Director of Transmission Planning and in ComEd's System Planning, Bulk Power Operations, Transmission Policy and Regulatory & Strategic Services Departments.

Jennifer is an active participant in industry working groups and forums including NERC Standards Drafting Teams and the EEI Reliability Executive Advisory Committee. She has served as a member of the NERC Standards Committee and is the past Chair of the NERC Project Management and Oversight Subcommittee.

She is currently the Chair of the NERC Member Representatives Committee and serves as a member of the Reliability First Board of Directors.



Teresa Mogensen

Senior Vice President, Energy Supply, Xcel Energy and RISC Member

Teresa Mogensen is senior vice president, Energy Supply at Xcel Energy, headquartered in Minneapolis, Minnesota, responsible for a 72-plant generation fleet that produces 18,195 megawatts (owned capacity) of electric power for 3.5 million customers in eight states.

She previously served as senior vice president, Transmission at Xcel Energy, responsible for all aspects of Xcel Energy's current and future electric transmission system and T&D substations across 10 states, and president of the Xcel Energy Transco, several transmission-only subsidiary companies engaged in competitive transmission growth opportunities.

Prior to Xcel Energy, Mogensen served in various leadership roles with American Transmission Company, in Waukesha, Wisconsin, where she helped launch the first for-profit, transmission-only utility company. She began her career as an engineer with Wisconsin Electric, now We Energies, of Milwaukee, Wisconsin.

Mogensen earned both a master's degree in business administration and a bachelor's degree in electrical engineering from Marquette University. She serves on the board of directors for a number of industry and community organizations, including the American Wind Energy Association (AWEA) and Minnesota Private Colleges Council (MPCC).



Woody Rickerson

Vice President, Grid Planning and Operations, ERCOT and RISC Member

As Vice President of Grid Planning and Operations, Woody Rickerson oversees transmission planning, generator interconnection activities, training and electric grid operations for the ERCOT region.

Mr. Rickerson brings a considerable amount of electric industry experience to his position, including more than 19 years at ERCOT in various roles. A licensed professional engineer, Mr. Rickerson has worked for utilities in Texas, Arizona and New Mexico. He has a bachelor's degree in Electrical Engineering from New Mexico State University and a master's degree in Engineering Management from the University of Colorado.

Virtual Reception Keynote



Dr. Peter Fox-Penner

Dr. Fox-Penner is Founder and Director of the Boston University Institute for Sustainable Energy and Professor of Practice at the Questrom School of Business, where he co-directs the Impact Measurement and Allocation Program ([IMAP](#)) of research in sustainable finance.

In addition, he is a Partner and Chief Strategy Officer of Energy Impact Partners, one of the largest dedicated clean energy private equity fund groups in the world and an academic advisor to The Brattle Group. He is on the global leadership council of the World Resources Institute and on the advisory boards of Mobility Impact Partners, the National Regulatory Research Institute's Training Initiative, and PEACE. He is also affiliated with the Energy Futures Initiative.

He formerly served as a senior official at the U.S. Department of Energy and the White House Office of Science and Technology Policy. Prior to BU, he served for over two decades as principal and chairman of The Brattle Group, an economic consulting firm.

Dr. Fox-Penner is a frequent speaker on energy topics and the author of numerous published articles and books, including the highly acclaimed *Smart Power: Climate Change, the Smart Grid, and the Future of Electric Utilities* (Island Press, 2010) and its sequel *Power After Carbon: Building a Clean, Resilient Grid* (Harvard University Press, 2020). His research has been widely cited, including in one [Supreme Court decision](#).

His research and writing interests are in the areas of electric power strategy, regulation, and governance; energy and climate policy; sustainable finance; and the relationships between public and private economic activity.