

REPORT TO THE NEW ENGLAND GOVERNORS 2021

New England States
Committee on Electricity



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Informing Decisions Toward a Reliable, Affordable, Clean 21st Century Power System

In 2021, New England responded to the 2020 New England Governors statement (*New England's Regional Wholesale Electricity Markets and Organizational Structures Must Evolve for 21st Century Clean Energy Future*), NESCOE's 2020 *Vision Statement*, and NESCOE's 2021 *Advancing the Vision Report to the Governors*.

The states' call for power system evolution emphasized the interconnectedness of elements composing the electric grid's operation and administration that need change to fit with today's facts and laws: wholesale markets, transmission planning, and ISO New England governance. The year 2021 delivered progress on each. This included a commitment to long-term, functional, and transparent market-based solutions to facilitate New England's clean energy future. Work to that end remains, from appropriate governance and market design to ensuring reliability and exploring complementary market rule changes.

NESCOE appreciates the significant grid-transformation related work ISO New England conducted in 2021 in response to requests from the New England Power Pool, the ISO New England Board and NESCOE - the *Future Grid Reliability Study*, the *Pathways to a Future Grid*, and the *2050 Transmission Study*. NESCOE similarly values stakeholders' contributions to analysis development and will benefit from their assessments in 2022 as well. The studies' look into the future from an engineering, economic, transmission, market and consumer cost point of view shows the complexity of grid transformation and the decisions ahead.

In 2021, we heard expressions of urgency. For some, the urgency is about decarbonization. For others, it's about securing power system reliability, especially in the winter months. For still others, it's about consumer costs and affordability. And, for many, the urgency is about striking a supportable balance among these factors – a balance that allows the region to progress on a sustainable path forward. As we together work through the changes needed to transform the grid and consider the trade-offs of options, we are hopeful that the debates and dialogue—which we find so informative—start from a shared recognition about the urgency to achieve a clean *and* reliable *and* affordable power system for New England electricity customers.

Section I: NESCOE Governance

A Board of Directors representing the six New England states directs NESCOE's affairs and engagement in regional issues. Each Governor appoints the state's NESCOE Manager. Regardless of the number of individuals each Governor appoints as a NESCOE Manager, each New England state has one undivided vote in arriving at NESCOE determinations.

The vast majority of NESCOE determinations have been unanimous, reflecting the commonality of interests across the region and New England states' efforts to achieve consensus on regional electricity matters. In circumstances where there is not consensus, NESCOE makes determinations with a majority vote (i.e., a numerical majority of the states) and a majority weighted to reflect relative electric load of each state within the region's overall load.

2021 NESCOE Managers

State of Connecticut Commissioner, Department of Energy and Environmental Protection Katie S. Dykes



Katie Scharf Dykes is the Commissioner of Connecticut's Department of Energy & Environmental Protection (DEEP). She was nominated by Governor Ned Lamont to serve as the Commissioner of DEEP and was confirmed on February 20, 2019. Katie previously served as Chair of the Connecticut Public Utilities Regulatory Authority (PURA) from 2015-2018, and as Deputy Commissioner for Energy at Connecticut DEEP from 2012-2015. Katie also served as the Chair of the Board of Directors of the Regional Greenhouse Gas Initiative, Inc. (RGGI) from 2014 to 2017. RGGI is a multi-state effort focused on reducing carbon emissions from electric generating facilities. Katie joined CT DEEP in March 2012 after prior service as Deputy General Counsel for the White House Council on Environmental Quality and as a Legal Advisor to the General Counsel for the U.S. Department of Energy. She is a graduate of Yale College and the Yale Law School.

State of Maine
Chairman, Public Utilities Commission
Philip L. Bartlett II



Philip L. Bartlett II, J.D., was appointed to the Maine Public Utilities Commission in June 2019 by Governor Janet Mills. Prior to his appointment, he practiced law with Stacia, Bartlett & Chabot. He also served in the Maine Senate from 2004 to 2012 and was elected by his peers to serve as Senate Majority Leader from 2008 to 2010. Bartlett chaired the Energy, Utilities and Technology Committee as well as the Joint Select Committee on Maine's Energy Future and he served on the Government Oversight Committee, Natural Resources Committee and Labor Committee. He taught micro and macroeconomics at the collegiate level. Chairman Bartlett holds a juris doctorate degree from Harvard Law School. He completed his undergraduate work at Tufts University, where he graduated Summa Cum Laude majoring in Economics and Political Science. His term expires in March 2025.

Commonwealth of Massachusetts
Chair, Department of Public Utilities
Matthew Nelson



Matthew Nelson was appointed Chair of the Department of Public Utilities in February 2019. Nelson began his energy career at the Department in 2007 in the Natural Gas Division. Subsequently, Nelson served as the Supervisor of Regulatory, Policy, and Planning for Eversource Energy as part of the nationally recognized Mass Save program. Returning to the Department, Nelson became the Director of Electric Power, and Regional and Federal Affairs. During Nelson's time at the Department, he has investigated a wide range of utility issues, including grid modernization investments, general rate case issues, solar and renewable energy development, energy efficiency, climate strategies, competitive supply, and storm restoration issues. Nelson's work at the Department and elsewhere has focused on reducing costs to ratepayers while improving reliability and continuing to drive down greenhouse gas emissions. Nelson is a graduate of Stonehill

College and he holds a master's degree in economics from Tufts University.

**Commissioner, Massachusetts Department of Energy Resources
Patrick Woodcock**



Patrick Woodcock was named DOER Commissioner in February 2020. Formerly the Executive Office of Energy and Environmental Affairs' Undersecretary of Energy, Commissioner Woodcock was named Acting Commissioner in December 2019 and served in this role until his current appointment.

Woodcock joined the Baker-Polito Administration in 2017 and served as the Undersecretary of Energy in the Executive Office of Energy and Environmental Affairs for over two years. In that position, Woodcock oversaw the Department of Energy Resources and the Department of Public Utilities. Woodcock serves on the Massachusetts Clean Energy Center Board and Investment Committee,

represents Massachusetts on the Boards of the Regional Greenhouse Gas Initiative Inc. and National Association of State Energy Officials, and is a member of the Energy Facilities Siting Board.

Prior to his time in the administration, Woodcock was Director of the Maine State Energy Office, a position he held from 2013 through 2016. Previously, Woodcock worked for United States Senator Olympia Snowe in her Washington, D.C. office. Woodcock graduated from Bowdoin College and holds a Bachelor of Arts degree in Government.

**State of New Hampshire¹
Commissioner, Department of Energy
Jared Chicoine**

**State Of Rhode Island
Commissioner, Office of Energy Resources
Nicholas Ucci**



Nicholas S. Ucci serves as Commissioner of the Rhode Island Office of Energy Resources (OER), the state's lead agency on energy policy and programs. OER works closely with private and public stakeholders to foster clean, affordable, and reliable energy solutions for all consumers, while spurring economic and job growth opportunities across Rhode Island's burgeoning clean energy economy.

During his time at OER, Commissioner Ucci has helped expand the state's clean energy portfolio nearly ten-fold, while supporting Rhode Island's standing as a national leader in energy efficiency innovation. He has played a significant role in major renewable energy procurements,

¹ Earlier in 2021, Public Utilities Commissioner Kathryn Bailey and George McCluskey served as NESCOE Managers.

including selection of the 400 MW Revolution Wind (offshore) project, and is leading efforts to ensure that 100% of the state's electricity demand is met with renewables by 2030 – a nation-leading effort. Nick has also been instrumental in guiding the state's Heating Sector Transformation (HST) initiative and helping to double EV charging infrastructure across Rhode Island roadways.

Nick serves as Executive Director of the Rhode Island Energy Efficiency & Resource Management Council (EERMC) and Distributed Generation (DG) Board, as well as Vice Chairman of the state's Executive Climate Change Council (EC4). He is also a recipient of the Environmental Merit Award (Government) from the U.S. Environmental Protection Agency (EPA).

A lifelong resident of the Ocean State, Nick is a proud graduate of the University of Rhode Island (URI), where he earned a Master of Arts degree in Political Science, with a concentration in Public Policy and a Graduate Certificate in Labor Relations. He also holds Bachelor of Arts degrees, with Highest Distinction, in Political Science and Economics from URI. A devoted father of two young children, Nick was elected by his peers to the Bishop's Committee of St. Francis Episcopal Church (Coventry, RI) and coaches little league baseball.

State of Vermont²
June Tierney
Commissioner, Department of Public Service



Commissioner June E. Tierney was sworn in as the Commissioner of the Vermont Department of Public Service by Governor Phil Scott on January 5, 2017. Prior to her appointment, Commissioner Tierney served as general counsel to the Vermont Public Service Board (2012-2016). Before then, she was a Board hearing officer (2008-2012), as well as a staff attorney at the Vermont Department of Public Service (2001-2008). A 1986 graduate of Boston University and a 1993 graduate of Vermont Law School, Commissioner Tierney began her legal career with a clerkship at the Vermont Supreme Court, followed by three years as an associate at Davis Polk & Wardwell in New York City, where she specialized in securities fraud litigation, white collar crime defense and corporate internal compliance investigations. Before her admission to the bar, Commissioner Tierney enjoyed the privilege of serving on active duty (1986-1990) as a commissioned officer in the United States Army.

² Earlier in 2021, Ed McNamara, Director of Energy Policy and Planning for the Vermont Department of Public Service, also served as a NESCOE Manager.

Section II: 2021 Staff & Consultants

The NESCOE staff³ team has diverse academic and professional backgrounds, including in economics, accounting, engineering, and law and a cross section of private and public sector experience. NESCOE's staff and technical consultants bring comprehensive and deep experience to analysis and filings with the FERC, other federal agencies, federal courts, and ISO New England.

Jeff Bentz **Director of Market Affairs**

Jeff Bentz, CPA, is NESCOE's Director of Market Affairs and has been with NESCOE since 2011. Previously, Jeff was with a New England generating facility, MASSPOWER, for nearly twenty years. Jeff served in progressive positions with MASSPOWER and was ultimately its General Manager. Earlier in his career Jeff was CPA with Arthur Andersen and Company. Jeff has a Bachelor of Science degree in Accounting from Central Connecticut State University.

Dorothy Capra **Director of Regulatory Services**

In 2011, Dorothy Capra was named NESCOE's Director of Regulatory Services. Beginning in 2000, Dorothy was International Power's Director of Regulatory Affairs for NEPOOL and subsequently assumed that role for PJM as well. In that capacity, she coordinated regulated activities in New England and PJM and related activities at the FERC. Dorothy was elected Vice Chair of the New England Power Pool's (NEPOOL) Transmission Committee and has served in the past as Vice Chair of its Reliability Committee. Earlier, Dorothy was with New England Electric System (National Grid) for ten years in a variety of positions, including in transmission and rates. She began her career at BP Oil, Inc. Dorothy has an MBA from the Amos Tuck School at Dartmouth and a BS in Chemical Engineering from Washington University in St. Louis.

Heather Hunt **Executive Director**

Heather Hunt joined NESCOE as Executive Director in 2009. Previously, Heather had a regulatory law practice for six years, was Director of State Government Affairs for United Technologies Corporation and Group Director, and subsequently, Vice President, for Regulatory at Southern Connecticut Gas. Earlier, she was a Public Utility Commissioner in Connecticut and then in Maine and was on the legal staff of a Connecticut Governor. Heather has a Bachelor of Arts in Politics from Fairfield University and a Juris Doctor from Western New England College School of Law. Heather served as Chair of the national Organ Procurement and Transplantation Network's Living Donor Committee and was elected to its Board for a term through June 2025. She also serves on the Board of the SJW Group.

Sheila Keane **Director of Analysis**

Sheila Keane joined NESCOE in 2021 as Director of Analysis. Previously, she worked for the Massachusetts Department of Public Utilities, where she held a variety of roles, including Director of Regional and Federal Affairs. Earlier, Sheila worked in the private sector with a consulting firm, London Economics International. Sheila is a graduate of Harvard University and holds a master's degree in economics from Johns Hopkins SAIS.

³ Earlier in 2021, Ben D'Antonio served as NESCOE's Senior Counsel and Analyst.

Jason Marshall
Deputy Executive Director and General Counsel

Jason Marshall joined NESCOE in 2012 as Senior Counsel and was elevated to General Counsel in 2014. In 2021, Jason was named Deputy Executive Director. Previously, he was Counsel with the Regional and Federal Affairs Division of the Massachusetts Department of Public Utilities. Earlier, Jason served as Legal Counsel to a Massachusetts State Senator, as an associate at Brown Rudnick LLP, and as a Law Clerk to the Chief Justice of the Massachusetts Appeals Court. Jason has a Bachelor of Arts, with honors, from Boston College and a Juris Doctor, with honors, from the University of Connecticut School of Law. He currently serves on the Cambridge Board of Zoning Appeal.

Technical Consultants and Legal Support

NESCOE retains consultants to provide technical analysis in the areas of system planning and expansion and resource adequacy. In 2021, NESCOE worked with consultants such as **Exeter Associates, Inc., Wilson Energy Economics, and Peter Flynn LLC.**

NESCOE does not use litigation as a primary means to accomplish its objectives, and when it needs to, NESCOE staff produces much of the organization's legal work. NESCOE's legal activity often focuses on consumer interests in proceedings at FERC. Like past years, NESCOE participated in a broad range of FERC proceedings involving issues such as electric transmission planning and rates and wholesale market rules. When NESCOE required outside counsel, it worked primarily with **Phyllis G. Kimmel Law Office PLLC** in Washington D.C.

Section III: Regional State Entity Coordination

NESCOE regularly communicates with the New England Conference of Public Utility Commissioners (NECPUC), and with the Coalition of Northeastern Governors as needed, to share information about matters on which it is working and to avoid duplication of efforts. In 2021, NESCOE and NECPUC participated in meetings with ISO New England staff and Board of Directors. As issues warrant, NESCOE facilitates dialogue with subject matter experts from state governments to enhance coordination and leverage the technical expertise that exists within state agencies on issues with regional electric system implications.

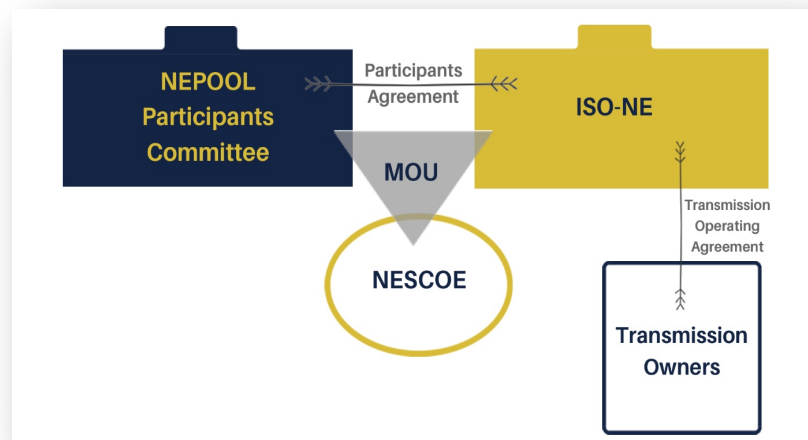
Section IV: 2021 Activity, Focus Areas & Accomplishments

Advocating for Consumer Interests in Regional Stakeholder Forums

New England consumers fund the region's wholesale electricity markets and high-voltage transmission system. The annual costs of the wholesale electricity markets have ranged over the past decade from a low of \$5.3 billion in 2016 to a high of \$13.6 billion in 2008, with 2021 coming in at \$11.2 billion. These costs include the energy, capacity, and ancillary services markets. In 2021, due to a large increase in natural gas prices, wholesale electricity costs were at their highest level since 2018 and were considerably higher than costs in 2020. Given the current status of the world's energy commodity markets, 2022 costs are expected to be higher than in 2021.

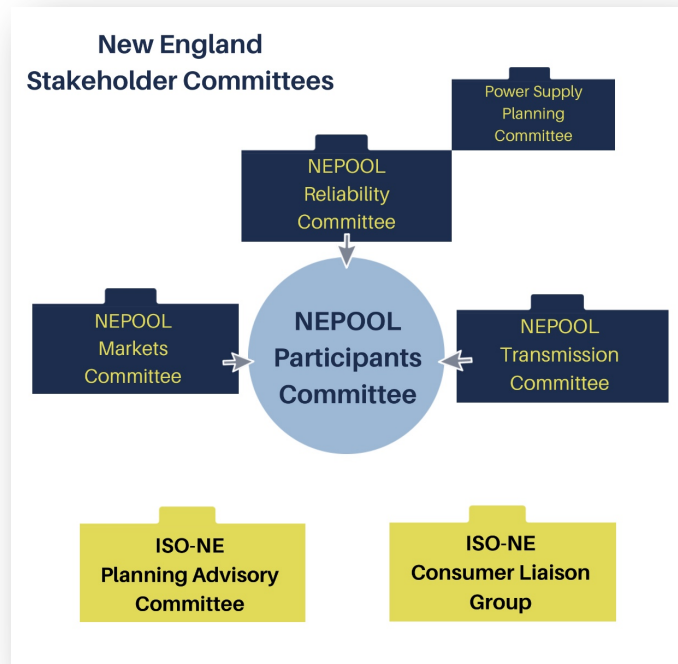
The plans and rules that determine the level and type of consumer investments in these markets are largely developed as part of a regional stakeholder process. Most proposals must ultimately be presented to FERC for its deliberation. Participating in these activities and the subsequent regulatory proceedings is resource intensive but imperative:

even "minor" revisions to market rules or planning approaches can mean significant changes and have material consumer cost implications.



After FERC approved NESCOE as New England's Regional State Committee, NESCOE commenced activity in 2009, consistent with a Memorandum of Understanding among NESCOE, ISO New England, and NEPOOL.

FERC reviews ISO New England’s filings to determine whether market rules and other proposals are “just and reasonable” under the Federal Power Act. Provided there is a certain super-majority level of stakeholder support for an alternative market rule proposal, ISO New England must include with its proposed filing the alternative market rule. The NEPOOL alternative is considered by FERC on equal legal footing with ISO New England’s proposed rule. New England’s transmission owners have legal authority to make certain filings with FERC in connection with transmission rates and cost allocation; FERC also reviews these filings under the Federal Power Act’s “just and reasonable” standard. Like market participants and stakeholders, NESCOE expresses its perspective to FERC on these various filings, which FERC will generally accept or reject.



Further, from time-to-time, NESCOE, market participants, and others seek federal court review of FERC decisions. These cases underscore the importance to consumers of NESCOE’s informed, active, and timely engagement in regional stakeholder conversations leading to FERC filings and, as needed, vigorous advocacy before FERC and in federal court.

Throughout 2021, NESCOE represented the collective views of the New England states and regularly played an important role in substantive New England regional stakeholder forums. This included NESCOE’s regular participation in NEPOOL’s Participants, Reliability, Transmission, and Markets Committee meetings. As part of this process in 2021, NESCOE offered proposals in connection with planning and market rule changes to advance consumer interests and states’ shared energy objectives as appropriate.

Additionally, NESCOE participated in ISO New England’s Planning Advisory Committee (PAC), the Power Supply Planning Committee and followed the Consumer Liaison Group activities.

NESCOE also participated in various working groups and *ad hoc* subject matter forums, such as the Energy Efficiency Forecast Working Group, the Distributed Generation Forecast Working Group, and the Environmental Advisory Group. These groups and activities provide an opportunity to communicate about data that drive investment decisions.

Throughout 2021, NESCOE worked to further the New England states' vision for a clean, affordable, and reliable 21st century regional electric grid.

Following state officials' technical forums and written comment opportunities, in June 2021, NESCOE released *Advancing the Vision*, a report to the governors. *Advancing the Vision* provided recommendations in each of the three core segments of the Vision statement: Wholesale Electricity Market Design, Transmission System Planning, and ISO New England Governance.

With respect to *Wholesale Electricity Market Design*, *Advancing the Vision* expressed support for exploring potential new market mechanisms or adjustments to existing mechanisms that will work best for consumers. This includes approaches that support the needs of new and existing clean energy resources, detailed work on a regional forward market draft design to procure clean energy attributes, as well as new or improved energy and ancillary service market mechanisms that support the region in reliably and cost-effectively integrating large amounts of intermittent renewable energy resources.

With respect to *Transmission Planning*, *Advancing the Vision* recommended continued collaboration with ISO New England and stakeholders to inform and define the *2050 Transmission Study*, as well as work to ensure that ISO New England's tariff is reformed to implement such state-led, proactive scenario-based planning process as a routine planning practice.

With respect to *Governance*, *Advancing the Vision* called on ISO New England to implement reforms aimed at enhancing transparency and accountability, reflecting the evolving power grid and the role of state laws and mandates in that evolution.

In 2021, NESCOE advanced the states' interests set out in *Advancing the Vision*:

- ♦ **Wholesale Electricity Market Design:** NESCOE actively engaged in the development of the *Pathways to a Future Grid* analysis, which explores policy approaches to decarbonizing the New England electric grid, including a Forward Clean Energy Market – a regional clean energy attribute market.
- ♦ **Transmission Planning:** NESCOE worked with ISO New England to develop the *2050 Transmission Study* framework and on tariff changes to implement similar state-led, long-term transmission studies as a routine planning practice.
- ♦ **Governance:** NESCOE and ISO New England engaged in constructive dialogue around governance, which yielded positive preliminary changes in 2021, such as the Board's commitments around communications with the states and the public.

Earlier in 2021, NESCOE produced a report entitled "*Governance Structure and Practices in the FERC-Jurisdictional ISOs/RTOs*." The report provided a macro view of the governance structures and practices of each of the six FERC-jurisdictional independent system operators or regional transmission organizations to facilitate comparison and discussion.

In 2021, ISO New England continued work on a series of studies to inform future grid needs and opportunities. These analyses were conducted consistent with the Vision Statement and NESCOE's 2019 request to ISO New England to dedicate market development and planning resources to support states and stakeholders in analyzing and discussing potential future market frameworks that contemplate and are compatible with the implementation of state energy and environmental

NESCOE provided a common future scenario that reflects the region's energy and environmental laws and will allow for comparison across the three major future grid studies.

laws. These studies include the ***Future Grid Reliability Study***, ***Pathways to a Future Grid***, and the ***2050 Transmission Study***. Each study explores in detail a different aspect of a future grid reflective of state energy and environmental laws. NESCOE actively participated in developing the study framework and assumptions. Importantly, all three studies include a common, carbon compliant hypothetical future scenario provided by NESCOE based on a state's 'Roadmap to 2050 Study', an 'All Options' scenario in

the year 2040. This common scenario reflects the region's energy and environmental laws and will allow for comparison across the three major future grid studies.

Work on these studies will continue throughout 2022. As results are released, NESCOE will work with ISO New England and other stakeholders to identify key themes that will inform next steps in market design, transmission investment, and other work to ensure the markets and transmission system adapt to meet future demands.

- ◆ **The Future Grid Reliability Study.** In 2021, NEPOOL submitted the Future Grid Reliability Study, Phase 1 to ISO New England as its economic study request. The submission reflected the culmination of months of collaborative stakeholder engagement led by NEPOOL and NESCOE. The Phase 1 study consists of a series of engineering and economic analyses that use NESCOE- and stakeholder-defined scenarios to identify grid reliability challenges that could occur in the year 2040 in light of state energy mandates and policies. NEPOOL's request to ISO New England includes future consideration of a Phase 2 study focused on identifying products or services that may need to be obtained via the markets to address challenges identified in Phase 1.
- ◆ **2050 Transmission Study.** ISO New England conducted transmission analysis to assess transmission needs in future hypothetical resource scenarios in direct response to the *Vision Statement*. This analysis is intended to identify a variety of potential infrastructure development pathways to meet the needs of the energy transition over long-term timeframes, out to 2050 and some interim periods, information about design considerations, and, importantly, high-level cost estimates. NESCOE worked with ISO New England to develop a framework for the analysis.
- ◆ **Pathways to a Future Grid Analysis.** In late 2020, the ISO New England Board directed management to conduct analysis of a new, incremental net carbon pricing design and a forward clean energy market. NESCOE requested that ISO New England prioritize time and resources at the outset to an assessment of a forward clean energy market-style concept. NESCOE further requested consideration of a Hybrid scenario to afford more information in understanding the overall results. NESCOE appreciated ISO New England's

agreement to examine the potential pathways in parallel. In 2021, NESCOE engaged in work on developing study approaches and details and provided feedback on preliminary results.

Advocating for Consumer Interests in ISO New England Forums and in Filings with FERC and the Courts

In 2021, NESCOE participated in ISO New England forums and federal-jurisdictional matters concerning resource adequacy and system planning-related issues with significant implications for New England consumers. Some proposed solutions followed years of analysis and discussion. Others emerged in reaction to more immediate circumstances. NESCOE's substantive positions and filings in 2021 continued to involve a diverse range of issues, as they have in past years. Despite this diversity of issues, NESCOE's common focus was on New England consumer interests and shared state objectives.

Transmission Planning for the Future

- ◆ **Overlay Network Expansion Transmission Concept:** In 2021, NESCOE proactively assessed how the Order 1000 tariff provision for public policy transmission planning could benefit from adjustment. NESCOE developed the Overlay Network Expansion (ONE) Transmission concept for discussion with NEPOOL and the public at the Planning Advisory Committee as a possible way to integrate the consideration of public policy-driven transmission options with ISO New England's only existing routine transmission planning process, system reliability planning.
- ◆ **Longer-Term Transmission Planning.** In 2021, ISO New England responded to states' call for tariff revisions to implement a state-led, proactive scenario-based planning process for longer-term analysis of state mandates and policies. Working closely with NESCOE, ISO New England filed these tariff changes with FERC with broad regional consensus.
- ◆ **Proposal for sweeping reforms to transmission planning and cost allocation.** In 2021, FERC issued an advanced notice of proposed rulemaking (ANOPR), a step that foreshadows major reforms to transmission planning, generator interconnection, and cost allocation processes. There was strong commonality between the ANOPR concepts and ideas NESCOE had advanced in New England, such as long-term transmission planning and ONE Transmission. In comments to FERC, NESCOE advocated for consumers, urging the Commission to prioritize proposed rules that enhance transparency, monitoring, and containment of transmission charges, and emphasized the critical need for states to have a meaningful role in public-policy transmission planning and cost allocation.
- ◆ **Transmission Rate Incentives.** In 2021, FERC proposed targeted changes to transmission rate incentives that responded meaningfully to consumer cost concerns that NESCOE and others have identified regarding transmission incentives policies. NESCOE generally supported the Commission's approach and urged it to continue to assess further reforms to transmission rate incentives to ensure rates remain just and reasonable for consumers.
- ◆ **ISO New England's First Competitive Process for Solutions to Reliability Needs.** In 2021, NESCOE participated in the region's assessment of ISO New England's first-ever competitive process for solutions for non-time sensitive reliability needs and other changes to use competitive processes in those circumstances where it is sensible to do so for

consumers. NESCOE recommended that ISO New England work to allow storage and other non-wires alternatives to be considered when addressing reliability concerns.

Aligning Markets with State Requirements

- ◆ **Minimum Offer Price Rule reforms.** In 2021, ISO New England announced that it would prioritize work to address the removal of the minimum offer price rule (MOPR) from the capacity market. NESCOE encouraged that work on an expedited basis. Throughout discussions on MOPR reform in 2021, NESCOE made clear what it has long expressed and brought litigation to address: it is inappropriate to apply the MOPR to state investments to meet clean energy mandates and that markets applying such a MOPR are not sustainable over the long-term. For a decade, NESCOE has advocated for fundamental changes to ISO New England's capacity market rules to remove barriers to the participation of clean energy resources developed in furtherance of state clean energy and environmental laws. Discussions on ISO New England's preferred approach to reforming the MOPR were active throughout 2021.
- ◆ **Integrating distributed energy resources into ISO New England markets.** In support of NECPUC's role in connection with state jurisdictional matters, NESCOE participated in the stakeholder process around ISO New England's compliance with FERC Order 2222. Order 2222 requires ISO New England to allow distributed energy resources (DERs) to provide all wholesale market services that they are technically capable of providing through an aggregation of resource, thereby increasing distributed energy resources' access to wholesale markets.

Regional Energy Security

NESCOE continued to provide a consumer voice regarding a unique cost-of-service contract for retiring generating units located just outside of Boston. Following its multi-year advocacy covering various FERC proceedings on the contract, NESCOE participated actively in reviewing and, ultimately, challenging at FERC the generating owner's attempt to recover from consumers capital expenditures and other costs that NESCOE did not believe were justified. Additionally, NESCOE continued to pursue its petition at the D.C. Circuit Court of Appeals for review of FERC's orders on the contract when they resulted in outcomes that unfairly disadvantaged consumers.

Generator Out-Of-Market Cost Recovery

NESCOE continued to be the leading consumer voice regarding the recovery of certain compliance costs associated with ISO New England's designation of facilities as "medium impact" cyber systems under mandatory reliability standards. In 2021, a market participant filed a request for recovery of such costs and attempted to recover expenditures pre-dating the cost recovery mechanism that had only recently been proposed and filed. NESCOE argued, as it had successfully done when the cost recovery mechanism was established, that recovery of those pre-dated costs was not appropriate as a matter of fairness and the law. FERC's order rejecting the market participant's proposal for cost recovery echoed NESCOE's protest.

In 2021, NESCOE was active across a wide range of FERC proceedings and other activities involving the potential for material consumer implications in connection with proposed market rule and rate changes including:

- ♦ **Key Forward Capacity Market Inputs.** In 2021, NESCOE filed with FERC its support for ISO New England's updates to key parameters applied in the annual auction to procure electric system capacity. NESCOE opposed an attempt by generator representatives to affect an alternative pricing methodology that would have imposed tens of millions of dollars and possibly over one hundred million dollars in additional unjustified costs on consumers, according to ISO New England. FERC's order accepting ISO New England's filing aligned with NESCOE's positions.
- ♦ **Transmission Formula Rate.** Pursuant to a litigated settlement that FERC approved in 2020, a new process was put in place in 2021 to provide increased transparency into the development of electric interstate transmission charges. This included the use of Formula Rate Protocols that allow for an information exchange between transmission owners and consumer interested parties. NESCOE actively engaged in this process, enhancing transparency through scrutiny of transmission owners' proposed cost recovery.

Forecasting and the Effect on Bottom Lines

New England consumers increasingly invest in technologies such as solar photovoltaics and energy efficiency in connection with state laws and programs that encourage resources located close to where consumers use power. The level of investment is so significant that in some cases it is reversing New England's growth in wholesale electric energy demand and slowing the growth in peak demand. At the same time, state laws and programs also support electrification of the transportation and building sectors of the economy. These initiatives are expected to increase demand for electricity from electric vehicles and heating equipment over time. Together, these investments and transitions affect the level of resources and infrastructure consumers need to plan and ultimately pay for, such as transmission lines or power plants. In 2021, NESCOE continued to support and assess ISO New England's accounting for local resources and new loads in regional planning.

- ♦ **Distributed Generation Forecast.** Earlier in time, NESCOE requested that ISO New England produce a Distributed Generation (DG) Forecast to account for the dramatic increase of distributed resources expected to interconnect to the power system. NESCOE continued to contribute to forecast adjustments and to protect against those that would have the effect of negating consumer investments in energy efficiency and distributed generation resources.
- ♦ **Energy Efficiency Forecast.** The states' sustained prior effort to obtain from ISO New England greater integration of energy efficiency savings in the regional load forecast and in system planning process has achieved continuing results for consumers through ISO New England's Energy Efficiency Forecast. Consideration of the Energy Efficiency Forecast in transmission planning has translated into hundreds of millions of dollars of savings for

consumers in the form of transmission project deferrals. NESCOE continued to advocate for regional planning and markets to appropriately account for these investments.

- ◆ **Heating and Transportation Electrification Forecasts.** ISO New England developed the Heating and Transportation Electrification forecasts to estimate impacts of the increasing demand for electricity from electric vehicles and heating equipment. ISO New England's projections of increased future electricity demand are based on state laws and associated programmatic support, with input from technical committees. For a sense of scale, over ISO New England's study horizon, electric vehicle demand is projected to increase the summer peak by several hundred megawatts later in the decade (2025-2030). NESCOE assessed this work, which will have consumer cost implications over time.

Section V: Priorities 2022 and 2023

NESCOE carries into 2022 several priority matters that require significant attention. At the direction of Managers, NESCOE will continue to identify areas for proactive engagement related to resource adequacy and system planning and expansion. Where needed, NESCOE will conduct independent technical analyses to inform Managers' decisions.

In 2022 and 2023, NESCOE will participate actively in NEPOOL stakeholder forums, exchange ideas with ISO New England and market participants, and represent the collective interests of New England states at FERC and, where appropriate, before other federal agencies and the courts. In addition to addressing issues as they arise, NESCOE anticipates focus on the following areas in 2022 and 2023:

- ◆ **Longer-term public policy-related transmission planning.** Continue to work with ISO New England and stakeholders on a second phase of tariff changes to rules to enable states to consider potential options for addressing any issues identified in the longer-term public policy-related transmission analysis and provide a cost allocation mechanism for associated transmission improvements; in regional and national transmission forums, continue to explore means, together with appropriate state roles, to integrate consideration of state public policy-driven transmission options with ISO New England's only existing routine transmission planning process-system reliability planning.
- ◆ **Reforms to Transmission Planning, Cost Allocation, and Generator Interconnection.** Engage in FERC's efforts to reform transmission planning, generator interconnection, and cost allocation processes; continue to advocate for consumers and to highlight the critical need for states to have an appropriate and meaningful role in public-policy transmission planning and cost allocation.
- ◆ **Transmission Planning for Reliability.** Review and provide input on ISO New England's plans and planning processes, including its Regional System Plans, forecasting, and certain transmission needs assessments and solution studies; provide feedback on ISO New England's planning assumptions and approach to probabilities in planning; continue to explore opportunities to comment on major NERC-related policy activities when they have the potential for significant cost implications for New England electricity consumers.

- ◆ **Transmission Cost Estimation and Tracking.** Continue to track transmission project costs, including but not limited to asset replacement projects. When tracking reveals cost overruns, which, among other issues, suggests alternative means would have been a better choice for consumers to satisfy the identified need, work with ISO New England and transmission companies to modify cost estimating practices and/or mitigate cost escalation. Continue to support FERC's proposed concept of enhanced transmission cost oversight, including establishing independent transmission monitors.
- ◆ **Transmission Incentives.** Continue to advocate for incentives that are just and reasonable and where, as designed, they deliver recognizable value for electricity customers.
- ◆ **Future Grid Analysis.** Assess ISO New England's *Future Grid Reliability Study* Phase 1 report; consider with ISO New England and stakeholders the contemplated Phase 2 analysis to assess revenue sufficiency and system security in a gap analysis; assess the results of ISO New England's *Pathways to a Future Grid* analysis, including the results for consumer cost and other implications in connection with state law requirements; consider governance approaches that provide an appropriate role for states; assess the results of the *2050 Transmission Study*, including the estimated costs for different potential infrastructure development pathways.
- ◆ **Wholesale Market Reforms.** Continue to engage with ISO New England and stakeholders about means to modernize New England's wholesale electricity markets to support achievement of clean energy laws while maintaining system reliability, including the design of associated market rules and governance. This includes potential new market frameworks, such as a forward clean energy market, and other market matters, such as resource capacity accreditation, retirement reforms, day-ahead ancillary service improvements, as well as policies and programs related to energy storage and distributed generation.
- ◆ **Enhancements to ISO New England Governance.** Continue to interact with ISO New England on enhancements to governance and related communications; monitor effectiveness of any enhancements ISO New England adopts to inform future discussions.
- ◆ **Winter and Energy Security.** Participate actively around core issues including but not limited to market mitigation concerns and related market-based mechanisms that value the contribution of resources needed for regional energy security and winter reliability; provide analysis as needed to support state evaluations, proposals, and/or amendments; ensure that consumer interests are chief among the metrics by which proposals are evaluated and that all potential solutions are illuminated by cost-effectiveness analysis to enable assessment of whether the consumer costs of proposed solutions have a reasonable relationship to asserted risks. To help assess or modify any proposed winter only solution(s), and to ensure solutions and their costs have a reasonable relationship to the nature of the identified risk, continue to seek clarity from ISO New England about the timeframe (i.e., immediate-, medium- or long-term) and type of winter risk (i.e., extreme weather, New England-typical weather, the dynamics of the clean energy transition over time, etc.) it seeks to protect against.
- ◆ **Extreme Weather.** Engage ISO New England's efforts to model tail risks related to extreme weather events and contingencies. This includes working to develop a risk assessment

framework and participating in discussions on understanding if, how and to what extent the region should protect against such risks.

- ◆ **Energy Security or Reliability Cost-of-Service Contracts.** Advocate for consumer interests in the cost, terms and conditions of any energy security or reliability cost-of-service contracts ISO New England has entered or may seek to enter with power generators or other resources; continue to be a vocal consumer voice on a cost-of-service contract related to retiring units located just outside of Boston and ensuring the costs to be recovered under this contract are appropriate.
- ◆ **Resource Reliability (Installed Capacity) Requirements.** Provide input on ISO New England's recommended ICR and associated assumptions, with attention to ensuring that the ICR appropriately reflects New England consumers' investment in distributed generation and other clean energy resources and the improved generator performance driven through Pay-for-Performance modifications to the Forward Capacity Market.
- ◆ **Forecasting.** Continue to analyze and advocate for appropriate accounting of energy efficiency resources so that consumers receive the full benefit of state policies and consumer investments in all forms of local power generation technologies; continue work to ensure that ISO New England's plans and resource determinations appropriately capture in the load forecast the increased penetration of solar PV and other distributed energy resources, and to ensure the application of this forecast to the transmission planning process and resource adequacy determinations; continue to examine and monitor the assumptions and methods used in ISO New England's heating and transportation electrification forecasts.
- ◆ **Resource Adequacy and Reliability Over the Long-Term.** In connection with ISO New England's initiatives related to resource capacity accreditation and pricing reserves in the day-ahead market, work with stakeholders and ISO New England to ensure that these and any other proposed modifications to the Forward Capacity Market or other market rules provide consumers with reliable service at the lowest possible cost over the long-term while maintaining environmental quality. To inform consideration of proposed solutions, provide analyses where appropriate to confirm the nature of identified risks, and to understand the range of potential cost-effective solutions, including whether the costs of proposed solutions have a reasonable relationship to asserted risks. In any proposed modifications, seek to have consumer impacts weighed appropriately among other objectives, such as an interest in theoretical market purity (e.g., minimal application of adjustments or use of judgment) and meeting states' future clean energy goals.
- ◆ **Interconnection of Distributed Resources.** As increasing levels of distributed resources connect to distribution systems across the region and affect the transmission system, continue to assess jurisdictional and procedural issues associated with the increased penetration.
- ◆ **Generator Out of Market Cost Recovery.** Continue to protect consumer interests in connection with the recovery of certain compliance costs associated with ISO New England's designation of facilities as "medium impact" cyber systems under mandatory reliability standards.

- ◆ **Advocate on behalf of Consumer Interests in Litigation Advanced by New England Market Participants.** Continue to advocate as appropriate in litigation implicating the interests of New England’s electricity consumers and, where necessary to safeguard consumer and states’ interests, intervene or bring matters to courts.
- ◆ **ISO New England’s Economic Studies.** Monitor ISO New England’s Economic Studies and, as appropriate, provide inputs into studies, particularly with respect to assumptions about state laws and policies and offer the states’ observations about outcomes for context.
- ◆ **Reasonable Decision-Making Processes and Metrics that Enable Full and Fair Consideration of Economic Implications on Consumers.** Advocate for decision-making processes that provide reasonable notice and opportunity to consider fully the consumer implications of proposed rule changes and an opportunity for states and ISO New England to explore the lowest cost means to achieve identified objectives; when appropriate, advance states’ perspectives on objectives and on the metrics by which ISO New England and others should evaluate potential solutions (e.g., the balance between market pricing and consumer cost implications).
- ◆ **ISO New England “Major Initiatives” Assessments.** Advance consumer interests in connection with ISO New England’s execution of the required quantitative and qualitative analysis of major market initiatives; ensure the consumer cost implications of proposed initiatives, and any alternatives, are understood and considered in decision-making.

Section VI. 2021 Expenditures

NESCOE operations are funded by a FERC-approved charge collected through Schedule 5 of Section IV.A of ISO New England's tariff. An independent audit of NESCOE's books for the year-end December 31, 2021, was completed and presented to the NESCOE Managers. The independent auditor opined that the organization's books conform to generally accepted accounting principles and issued an unqualified opinion letter. A 2021 Statement of Spending is as follows:

NESCOE	
Statement of Spending	
December 31, 2021	
Expenses	
Direct Expenses, Consulting	
Legal (FERC) Services	195,115
Technical Consulting	127,455
Total Direct Expenses, Consulting	<u>322,570</u>
Employment and Benefits	
Disability	4,295
Employee Health Insurance	27,418
Life Insurance	363
Payroll Taxes	64,989
Pension Contributions	32,002
Salaries & Wages	834,168
Total Employment and Benefits	<u>963,234</u>
General and Administrative	
Dues and Subscriptions	7,352
Depreciation	2,595
Insurance	7,104
Office Expenses	4,845
Professional Services	30,925
Rent, Parking & Utilities	28,042
Telephone & Communications	8,349
Travel and Meetings	4,361
Total General and Administrative	<u>93,572</u>
Total Expenses	<u>1,379,375</u>

Section VII. Budget 2022 & Preliminary Budget 2023

NESCOE's 2022 budget, which is consistent with the current five-year *pro-forma* approved by NEPOOL and accepted by FERC, was presented to and affirmed by NEPOOL in October 2021. The 2022 NESCOE budget was submitted to the FERC and accepted in December 2021. The 2022 budget is as follows:

	2022
Salaries and Wages	
Salaries	1,106,398
Payroll Taxes	110,640
Health and Other Benefits	92,855
Retirement §401(k)	44,256
Total, Salaries and Wages	1,354,149
Direct Expenses - Consulting	
Technical Analysis	362,070
Legal (FERC)	362,071
Total, Direct Expenses, Consulting	724,141
General and Administrative	
Rent	24,000
Utilities	5,971
Office and Administrative Expenses	47,530
Professional Services	40,000
Travel/Lodging/Meetings	55,000
Total General and Administrative	172,501
Capital Expend. & Contingencies	
Computer Equipment	8,442
Contingencies	225,923
Capital Expend. & Contingencies	234,365
TOTAL EXPENSES	2,485,156
BUDGET	2,617,642

The preliminary 2023 budget is as follows:

**NESCOE Pro Forma Budget
Preliminary 2023**

	2023
Salaries and Wages	
Salaries	1,311,718
Payroll Taxes	131,172
Health and Other Benefits	110,098
Retirement §401(k)	<u>52,469</u>
Total, Salaries and Wages	<u>1,605,457</u>
Direct Expenses - Consulting	
Technical Analysis	342,932
Legal (FERC)	<u>342,933</u>
Total, Direct Expenses, Consulting	<u>685,865</u>
General and Administrative	
Rent	-
Utilities	-
Office and Administrative Expenses	48,956
Professional Services	41,200
Travel/Lodging/Meetings	<u>56,650</u>
Total General and Administrative	<u>146,806</u>
Capital Expend. & Contingencies	
Computer Equipment	8,695
Contingencies	<u>244,682</u>
Capital Expend. & Contingencies	<u>253,377</u>
 TOTAL EXPENSES	 <u><u>2,691,505</u></u>
 BUDGET	 <u>2,696,171</u>