NEW JERSEY BPU/DOE/SNL ENERGY STORAGE WEBINAR SERIES:

Introductions to Energy Storage (ES) Systems, Economics, and Policy

JAN. 25, 2021 AGENDA / SPEAKER BIOS / WEBINAR LINK

Presented by New Jersey Board of Public Utilities,
U.S. DOE Office of Electricity Energy Storage Program, and Sandia National Laboratories

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Energy storage is the key to unleashing the power of renewables, relieving generation, transmission, and distribution demands, and hastening the energy transition to a decarbonized future. New Jersey Board of Public Utilities Commissioners and Staff are invited to participate in a series of energy storage webinars planned by BPU Staff and presented in collaboration with US DOE Office of Electricity Energy Storage Program, Sandia National Laboratories, and Pacific Northwest National Laboratory. Experts from the national labs, NGOs, utilities, and other organizations and institutions will provide content. The goal of the webinar series is to help advance the energy storage market in New Jersey.

January 25, 2021 - Introductions to Energy Storage (ES) Systems, Economics, and Policy

1:00 – 1:15	**Introduction to the Series** **Jim Ferris, Board of Public Utilities, New Jersey**
1:15 – 1:30	**Introduction to ES** **Dr. Imre Gyuk, Director, DOE Office of Electricity Energy Storage (OE ES) Program**
1:30 – 1:50	**Introduction to ES Systems** **Dr. Howard Passell, Sandia National Laboratories**
1:50 – 2:30	**Introduction to ES Multiple Use Applications and Economics** **Patrick Balducci, Argonne National Laboratory**
2:30 – 2:40	**Q&A / Discussion**
2:40 – 2:50	**Break**
2:50 – 3:25	**Introduction to Federal ES Policy Issues** **Jeremy Twitchell, Pacific Northwest National Laboratory (PNNL)**
3:25 – 3:50	**Introduction to State ES Policy Issues** **Will McNamara, Sandia National Laboratories**
3:50 – 4:00	**Q&A/Discussion**

Jim Ferris is the Bureau Chief of New Technology in the Clean Energy Division of the New Jersey Board of Public Utilities. In this role, Jim is leading teams working on New Jersey's offshore wind, energy storage, and Microgrids programs, as well as other clean energy initiatives. Jim has been providing professional consulting and engineering services for over 40 years, and has focused on energy and sustainability for the past 20 years. Jim is well versed in both the technical and policy aspects of clean energy, particularly innovative and emerging clean energy technologies. Jim received a BS degree in Earth and Planetary Sciences from the Massachusetts Institute of Technology, is a registered Professional Engineer in New Jersey, and is a Certified Energy Manger.

U.S. DEPARTMENT OF ENERGY

New Jersey Board of Public Utilities

Sandia National Laboratories

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JANUARY 25, 2021 - SPEAKER BIOGRAPHIES, CONTINUED

After taking a B.S. from Fordham University, Dr. Imre Gyuk did graduate work at Brown University on Superconductivity. Having received a Ph.D. in Theoretical Particle Physics from Purdue University he became a Research Associate at Syracuse. As an Assistant Professor he taught Physics, Civil Engineering, and Environmental Architecture at the University of Wisconsin. Dr. Gyuk became an Associate Professor in the Department of Physics at Kuwait University where he became interested in issues of sustainability. Dr. Gyuk joined the Department of Energy to manage the Thermal and Physical Storage program. For the past two decades he has directed the Electrical Energy Storage research program in the Office of Electricity, developing a wide portfolio of storage technologies for a broad spectrum of applications. He supervised the $185M ARRA stimulus funding for Grid Scale Energy Storage Demonstrations and is now partnering with the States on numerous storage projects for grid resilience. His work has led to 12 R&D 100 awards, two EPA Green Chemistry Challenge Award, and Lifetime Achievement Awards from ESA and NAATBatt. He is internationally recognized as a leader in the energy storage field.

Howard Passell works in the Energy Storage Systems Department at Sandia National Laboratories (SNL) in Albuquerque, New Mexico. His work focuses on energy storage, grid modernization, energy security, and decarbonization. Over 23 years at Sandia he has worked on energy and water resource monitoring, modeling, management, capacity building, and policy-related projects at various scales in the US, Central Asia, the Middle East, and North Africa. This included helping to lead Sandia's efforts in DOE's Solar America Cities initiative and developing energy conservation software and methodology for large institutions. He has worked on emerging national security issues associated with energy, water, food, ecosystems, and population, with an emphasis on the relationships between resource scarcity and human security. He earned master's and doctorate degrees in conservation biology and hydrogeoecology at the University of New Mexico. His undergraduate studies were in classical literature and the liberal arts at St. John's College in Santa Fe, NM and the Ohio State University in Columbus, Ohio.

Patrick Balducci is the Manager of the Power Systems and Markets Research Group in the Center for Energy, Environmental, and Economic Systems Analysis at Argonne National Laboratory. Prior to joining Argonne, Patrick served as a Chief Economist at the Pacific Northwest National Laboratory (PNNL), where he served for nearly 20 years. At PNNL, he led the energy storage analytics team where his research focused on storage valuation, integration, performance characterization, and control systems. In this role, he led research efforts evaluating the benefits of 1.6 GW / 18 GWh in energy storage capacity at 16 sites across the U.S. He also led efforts to enhance economic assessment tools for the U.S. Department of Energy. Patrick serves on the Board of Directors of the Pacific Northwest Regional Economics Conference. He holds a BS in Economics from Lewis and Clark College, where he graduated with honors, and an MSc in Applied Environmental Economics from the University of London, Imperial College of London.

Jeremy Twitchell is an energy research analyst at the Pacific Northwest National Laboratory, where he leads the equitable regulatory environment area of the PNNL Energy Storage Program and assists in distribution system planning research. In those roles, he is responsible for reaching out to states to provide technical assistance in analyzing energy storage and other developing energy resources and incorporating them into utility planning and procurement activities. Prior to joining PNNL, Jeremy spent five years at the Washington Utilities and Transportation Commission, where he was the staff lead for the development of policies associated with the treatment of energy storage in utility resource planning and rulemaking. His work has supported integrated resource planning, which included development of a distribution planning rule. He participated in multiple utility advisory groups on energy efficiency and resource planning, provided expert testimony in the areas of rate design and resource acquisition, and oversaw renewable resource portfolio standard compliance. He also testified before the Washington State Legislature and prepared a report to the Legislature on best practices in distribution system planning. He has presented on the topics of energy storage, renewable resource portfolio standards, and renewable resource integration at regional, national, and international conferences.

Will McNamara serves as Grid Energy Storage Policy Analyst for Sandia National Laboratories with a focus on energy storage policy development at the federal and state levels. Will has spent his entire 23-year career in the energy and utilities industry with a concentration on regulatory and legislative policy. He has served as a lobbyist in California and has represented major utilities across the U.S. in numerous jurisdictions in proceedings pertaining to integrated resource planning, procurement, cost recovery, rate design, and the development of policymaking best practices. Will's areas of subject matter expertise, in addition to energy storage policy, include distributed energy resources, AMI/smart grid, renewables, and competitive retail markets.