



Illinois Commerce Commission Energy Storage Webinar Series

Session 1: Introduction to Energy Storage

Tuesday, November 16, 2021

1:00 PM to 3:00 PM (CT)

Presented by:
U.S. DOE Office of Electricity Energy Storage Program,
Illinois Commerce Commission,
and Sandia National Laboratories

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. Illinois Commerce Commission Staff & Stakeholders are invited to participate in a series of energy storage webinars presented in collaboration with US DOE Office of Electricity Energy Storage Program and Sandia National Laboratories. Experts from the national labs, regional agencies and other organizations and institutions will provide content, with time for discussion and questions.

Agenda

November 16, 2021 – Introduction to Energy Storage

1:00 - 1:05	Welcome Jim Zolnierek, Chief, Public Utilities Bureau, Illinois Commerce Commission
1:05 - 1:20	Introductory Remarks Dr. Imre Gyuk, Director, DOE Office of Electricity Energy Storage (ES) Program
1:20 - 1:50	Introduction to Energy Storage Technologies Dr. Howard Passell, Sandia National Laboratories
1:50 - 2:20	Introduction to Energy Storage Economics Patrick Balducci, Argonne National Laboratory
2:20 - 2:50	Introduction to Energy Storage Policy William McNamara, Sandia National Laboratories
2:50 - 3:00	Discussion/Q&A



Speaker Biographies



Dr. Imre Gyuk, Director, DOE Office of Electricity Energy Storage (ES) Program

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 Awards, and Lifetime Achievement Awards from ESA and NAATBatt. He is internationally recognized as a leader in the energy storage field.



Dr. Howard Passell, Sandia National Laboratories

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 hydrogeocology 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, Argonne National Laboratory

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.



Will McNamara, Sandia National Laboratories

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.