

**US–UK Scientific Forum on Sustainable Energy; electrical storage in support of the grid
Participant List**

Douglas J. Arent is Executive Director of Strategic Public Private Partnerships. As executive director, he focuses on strategic public and private partnerships with NREL to transform energy economies at speed and scale across the globe. He has worked in research on energy and sustainability for more than 30 years, publishing extensively on topics within clean energy, renewable energy, power systems, natural gas, and the intersection of science and public policy.

Katherine Ayers is Vice President of R&D for Nel Hydrogen US, with responsibility for developing and executing Nel's technology strategy in proton exchange membrane electrolysis. Her team is primarily responsible for development of advanced cell stack materials, designs and manufacturing processes, including external collaborations.

Michael J. Aziz is the Gene and Tracy Sykes Professor of Materials and Energy Technologies at the Harvard School of Engineering and Applied Sciences. He is co-inventor of the organic aqueous flow battery and directs multi-investigator research programs on stationary electrical energy storage. He is a Fellow of the APS, the MRS and the AAAS and is the co-recipient of the 2019 Energy Frontiers Prize from Eni.

Sue Babinec is Stationary Storage Program Lead at Argonne National Laboratory, USA. Her work covers the development of the US Department of Energy's future electric grid vision including a range of optimized energy storage capabilities. Previous appointments include ARPA-E/DOE, technical director -A123 Systems, and Corporate Fellow at the Dow Chemical Corp. She holds >45 patents, and has dozens of journal articles/book chapters.

Sally M. Benson is the Precourt Family Professor in the Energy Resources Engineering Department in the School of Earth, Energy and Environmental Sciences at Stanford University. From 2014-2020 she served as the Co-Director of the Precourt Institute for Energy, and was formerly the Director of the Global Climate and Energy Project at Stanford. Her research is focused on low carbon energy solutions for both developed and emerging economies.

Terry Boston P.E was CEO of PJM from 2008 to 2016 and is a 2017 Presidential Appointment to the President's National Infrastructure Advisory Council. Mr. Boston is past president of GO 15, the world's largest power operators, serving 3.4 billion people. He is winner of the Global Energy Lifetime Achievement Award. He wrote his Master's thesis on the optimization of a 1600 MW pumped-storage plant and created the first market for grid battery storage and was given the ESA Storage International Leadership award.

Trevor Brown is the Executive Director of the Ammonia Energy Association, a global trade association that promotes the responsible use of ammonia in a sustainable energy economy. Originally, Trevor was an award-winning theater and film producer, in London and New York. He retrained in finance when he began to understand the climate change challenge, earning the Chartered Financial Analyst designation. Since 2012, when he established himself as an independent ammonia industry analyst, he has been an agitator for the commercialization of sustainable ammonia synthesis technologies. Trevor is also a partner in Carbon-Neutral Consultants, a consulting firm established in 2019.

Paul Chirik is currently the Edwards S Sanford Professor of Chemistry at Princeton University. He obtained his Ph.D at Caltech with John Bercaw and did postdoctoral studies at MIT. His research group is interested in sustainable chemistry and catalysis with Earth-abundant transition metals.

Steve Davis is a Professor of Earth System Science and Civil & Environmental Engineering at the University of California, Irvine, where he researches trends and drivers of GHG emissions, net-zero emissions energy systems, and the environmental impacts of energy production, climate change and international trade.

Joseph DeCarolis is a professor in the Department of Civil, Construction, and Environmental Engineering at NC State University. His research is focused on examining technology and policy pathways to achieve deep decarbonization through the development and application of energy system optimization models.

Paul Denholm is a Principal Energy Analyst at the National Renewable Energy Laboratory. His research focuses on examining the technical and economic impacts of large-scale deployment of renewable electricity generation, and the role of energy storage. He holds a Ph.D. in energy analysis from the University of Wisconsin-Madison.

Jeffrey Goldmeer is an Emerging Technology Director at GE Gas Power where he is responsible for developing and executing strategies for the decarbonization of gas turbine-based power plants. Dr. Goldmeer received his Ph.D. in Mechanical Engineering from Case Western Reserve University. He holds 12 patents on a variety of combustion and propulsion system technologies, and is co-creator and co-host of GE's new podcast, Cutting Carbon.

Alan Greenshields has been involved in the development of new rechargeable battery technologies since 2004, most recently as co-founder of Innolith AG. He previously held senior management positions in both large technology companies and entrepreneurial ventures in the UK, Germany and Switzerland. He holds an MBA with high distinction (Baker Scholar) from Harvard Business School and a BSc BEng in Manufacturing Sciences and Engineering from the University of Strathclyde, Glasgow.

Kory Hedman is the Director of the Power Systems Engineering Research Center, an industry-university cooperative research center with 12 universities and 23 industry members. Hedman received the Presidential Early Career Award for Scientists and Engineers from President Barack Obama. Hedman holds 6 degrees covering operations research, electrical engineering, and economics.

Patricia Hoffman is 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.

Patrick M. Hogan is Executive Vice President of Utility Technology Solutions, LLC. Pat oversees the operation of this start-up that is bringing new technology solutions to electric and gas utilities. Pat previously served as Senior Vice President of Electric Operations at Pacific Gas and Electric Company where he oversaw PG&E's electric system, delivering safe and reliable energy to more than 16 million people throughout Northern and Central California. Prior to PG&E, Pat held leadership and officer roles in transmission, distribution, operations, engineering and asset management at British Columbia Hydro, National Grid, and KeySpan.

William W. Hogan is the Raymond Plank Research Professor of Global Energy Policy at the John F. Kennedy School of Government, Harvard University. He is research director of the Harvard Electricity Policy Group (HEPG), which examines alternative strategies for a more competitive electricity market. Hogan has been a member of the faculty of Stanford University where he founded the Energy Modeling Forum (EMF), and he is a past president of the International Association for Energy Economics (IAEE). Current research focuses on major energy industry restructuring, network pricing and access issues, market design, and energy policy in nations worldwide.

Judith Judson serves as Vice President - Distributed Energy Systems of the Company. She oversaw a 70-person team responsible for shaping state energy policies and implementing innovative solutions to help the Commonwealth reach its clean energy goals. Under her leadership, MassDOER launched the Solar Massachusetts Renewable Target (SMART) Program aimed at doubling the amount of distributed solar in the Commonwealth. Judith is also credited with the launch of a \$20 million Energy Storage Initiative in 2015, which in four years grew storage development in Massachusetts from 1 MWh of storage capacity to over 700 MWh.

James Klausner currently serves as the Dean of Engineering at UAE University. Prior to that he served as an MSU Foundation Professor and Mechanical Engineering Department Chair at Michigan State University (2016-2021). He formerly served as Chair of the ASME Heat Transfer Division (2011-2012). He serves on the board of directors for the American Society of Thermal Fluid Engineers and the International Titanium Association Foundation. For three and a half years he served as a Program Director (2012-2015) at the U.S. Department of Energy Advanced Research Projects Agency-Energy (ARPA-E).

Steven E. Koonin (NAS) is a University Professor at New York University. He was Undersecretary for Science at the U.S. Department of Energy 5/09 – 11/11 after serving five years as Chief Scientist for BP, p.l.c. Koonin was a professor of theoretical physics at Caltech for some thirty years and was the institute's Provost for nine years.

Robert B. Laughlin shared the 1998 Nobel Prize in Physics for work on semiconductors. His present interest is grid energy storage using thermal pumping with turbomachinery and molten salt. He is actively involved with industrial activity off campus to build and deploy this technology. He is the first author of 12 relevant patents.

Nate Lewis is the George L. Argyros Professor of Chemistry at the California Institute of Technology. Research interests include phototropism in non-biological inorganic matter and related pattern free nanoscale 3-D lithography. Lewis is also interested in weather-based data-driven modeling of deeply decarbonized electricity and energy systems based on variable renewable energy as well as technologies for long-term grid storage.

Thomas E. Mallouk is currently Vagelos Professor in Energy Research in the Department of Chemistry at the University of Pennsylvania. His research focuses on the synthesis of inorganic materials and their applications in solar energy conversion, electrocatalysis, nano- and microscale motors, low dimensional physical phenomena, and environmental remediation. He is the author of 450 publications, including a few good ones, and a member of the U.S. National Academy of Sciences.

Anthony McDaniel's research is focused on developing functional materials used in technologies that split water and carbon dioxide for solar energy storage. He is the solar thermochemistry Technology Lead for HydroGEN (<https://www.h2awsm.org>), which is an Energy Materials Network consortium funded by the US Department of Energy. Through HydrGEN, he manages multidisciplinary R&D collaborations between US Universities and US National Laboratories in pursuit of commercially viable routes to renewable and sustainable hydrogen production.

M. Granger Morgan is the Hamerschlag University Professor of Engineering at Carnegie Mellon University where he co-directs research centers on Climate and Energy Decision Making and on the Electricity Industry. He is a member of the National Academy of Science and of the American Academy of Arts and Sciences.

Robert Schainker is a Senior Technical Executive at the Electric Power Research Institute. His expertise encompasses energy storage and transmission technologies, and, has given expert testimony to the US Congress and the US Federal Energy Regulatory Commission. He has degrees in Mechanical Engineering (BS), Electrical Engineering (MS), and Mathematics (PhD).

Venkat Srinivasan is the director of the Argonne Collaborative Center for Energy Storage Science (ACCESS) and deputy director of the Joint Center for Energy Storage Research (JCESR), an Energy Innovation Hub of the U.S. Department of Energy. He is a former staff scientist at Lawrence Berkeley National Lab whose research interests include developing next-generation batteries for use in vehicle and grid applications.

Esther S. Takeuchi is a SUNY Distinguished Professor and William and Jane Knapp Chair in Energy and the Environment at Stony Brook University with a joint appointment at Brookhaven National Laboratory. She is a member of National Academy of Engineering, the National Inventors Hall of Fame, the National Academy of Innovation, received the European Inventor Award and the US National Medal of Technology and Innovation. She is a Fellow of the ECS, the American Institute of Medical and Biological Engineering, and the American Association for the Advancement of Science.

Alexandra “Sascha” von Meier is an adjunct professor in the Department of Electrical Engineering and Computer Science and directs the Electric Grid Research program at the California Institute for Energy and Environment (CIEE), at the University of California, Berkeley. She is also a faculty scientist at the Lawrence Berkeley Lab. She holds a B.A. in Physics and a Ph.D. in Energy and Resources from UC Berkeley.