

Energy Storage for Manufacturing and Industrial Decarbonization Workshop

"Energy StorM"

Enabling Carbon-Free Energy for Industrial Decarbonization

February 8-9, 2022

Hosted by:



Industry Needs Panel

Panel Chairs:

Prakash Rao, Research Scientist, Buildings and Industrial Applications Department at Lawrence Berkeley National Laboratory

Nwike Iloeje, Energy Systems Scientist, Argonne National Laboratory

Panelists:

Elizabeth Endler, Senior Principal Scientist, Shell

Anne Williams, President, Washington Mills

Rob Threlkeld, Global Manager, General Motors

Helder Da Silva, Group Expert for Energy, ArcelorMittal

Gianluca Ambrosetti, CEO & Founder, Synhelion

Biographies

Dr. Prakash Rao is a Research Scientist within the Buildings and Industrial Applications Department at Lawrence Berkeley National Laboratory in Berkeley, California. Dr. Rao conducts research and analysis into the potential for reducing the energy consumption and water use impacts of the US manufacturing sector while maintaining its productivity. Dr. Rao also conducts analysis of large-scale desalination, focusing on its energy implications and reduction

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opportunities. Dr. Rao received his doctorate in Mechanical and Aerospace Engineering from Rutgers University and his bachelors in Mechanical Engineering from Carnegie Mellon University.

Nwike Iloeje is a Research Scientist in the Energy Systems Division. His research combines fundamental engineering sciences with computational modeling to explore questions at the intersection of sustainable energy and material transformations. His research activity includes thermodynamic modeling and techno-economic optimization of critical materials recovery; development, design and optimization of energy conversion systems with CO₂ capture; AI-driven optimization of chemical manufacturing processes; and reverse supply chain network optimization. Nwike is also actively involved in STEM related educational outreach initiatives both within and outside Argonne.

Dr. Elizabeth Endler currently serves as the Principal Technology Advisor – Power and Senior Principal Science Expert - Electrification, Integration, & Storage, focused on the foundational science, innovative technologies, and commercial opportunities related to electrification of industry, mobility, and the built environment. Elizabeth has over 18 years of experience in industrial R&D, including work in fundamental research, product development & technology commercialization, project development and valuation, venture capital investing, and mergers and acquisitions support. A chemical engineer by training, she most recently managed a global research portfolio of internal technology development efforts and over 30 external collaborations in energy storage & system integration while leading international R&D teams. Elizabeth is based in Houston, TX, and holds a BS from the University of South Carolina and a PhD from the University of Wisconsin-Madison, both in chemical engineering.

Anne Williams, President of Washington Mills. Anne received her undergraduate degree from Colorado College and her graduate degree in International Business and Environmental Policy from The Fletcher School at Tufts University.

Anne began her career in international sales working in Santiago, Chile, London, UK and New York, NY for ISI Emerging Markets, a leading provider of business and financial data. Anne joined Washington Mills in 2006 and now leads the company into its 154th year of business as the third-generation owner and president. Washington Mills is one of the world's largest manufacturers of abrasive and custom fused synthetic mineral products and operates some of the only technology and product capabilities of its kind in North America. Washington Mills has over 550 employees, is headquartered in North Grafton, MA and operates eight plants between North America and Europe.

Passionate about materials discovery, Anne drives product development by understanding the important jobs synthetic minerals perform in customers' applications today - and discovering what those materials can do tomorrow. Anne lives in Boston with her husband Kevin and is a proud mother of three children. Anne is a girls' lacrosse coach and an outdoor enthusiast.

Rob Threlkeld has over 19 years of experience in the energy side of GM, supporting some of GM's largest powerhouse operations, from managing GM's Lordstown Assembly Plant powerhouse, to sourcing energy efficiency projects, energy management systems, leading GM's efforts to source 100% of our operations from Renewable energy to now leading GM's Global Energy Efforts in Sustainable Energy, Supply, and Reliability. Including Natural gas, electricity, water, sewer, energy

related equipment, energy efficiency performance contracts, as well as supply reliability and policy efforts that impact the rates GM pays. GM's four pronged strategy of 1) Continued Strong Energy Efficiency efforts 2) Lead sourcing from clean energy sources such as wind and solar, 3) Smart Integration of storage (battery, EVs, and fuel cells) to support grid integration of renewable energy 4) Supporting Policy and regulations that allow for greater adoption of Renewable energy on a global basis and rates to support a zero carbon future.

Helder Da Silva is a multinational professional with 25+ years of Energy Management, Energy Distribution, Energy Trading, and Project Management, with extensive experience leading energy and carbon initiatives across steelmaking operations globally. Helder is the group expert for energy at ArcelorMittal Group.

Gianluca Ambrosetti obtained his PhD in Physics/Nanotechnology from EPFL Lausanne. He held various positions in the concentrated solar power and photovoltaics industry – among them he was Head of Research at Airlight Energy and Managing Director of Dsolar. His achievements include several patents and scientific publications, and he is the recipient of the EPFL Prix Prof. René Wasserman 2011. He co-founded Synhelion in 2016 and now holds the position of CEO. Gianluca is a passionate jazz soprano saxophone player and performs regularly at concerts and jazz festivals.