

ELECTRIFICATION 2024 Pre-Conference Workshops

Monday | 3/11

1:00 PM - 5:00 PM	Power Quality Applications (Part 1)	Examine the challenges that face the industry in addressing real-world issues of managing power quality on both sides of the meter. In addition to the practical issues, techniques, approaches, and leading-edge research will be presented for today's issues as well as the increasing challenges presented by significant growth in electric end uses. Speakers: Bill Howe & Mark Stephens
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Tuesday | 3/12

8:00 AM - 5:00 PM	Power Quality Applications (Part 2)	Examine the challenges that face the industry in addressing real-world issues of managing power quality on both sides of the meter. In addition to the practical issues, techniques, approaches, and leading-edge research will be presented for today's issues as well as the increasing challenges presented by significant growth in electric end uses.
8:00 AM - 5:00 PM	Industrial Heat Pumps	Industrial heat pumps create significant process improvements as well as decarbonization opportunities. Explore the fundamentals as well as best applications of industrial heat pumps. The workshop will also take an in depth look at the fundamentals, design parameters and applications of large heat pumps for campus and district energy systems.
8:00 AM - 5:00 PM	Process Heating Electrification Applications	Industrial process heating presents a variety of electrification opportunities. Technologies utilized include, but are not limited to, infrared heating and ultraviolet lighting for curing and drying applications as well microwave applications for enhancing process reactions. These approaches eliminate the need for volatile organic compounds (VOC's) in coatings and also speed production times.
8:00 AM - 12:00 PM	Getting EV's to Swift Grid Interconnection	Everyone wants electrical service instantly--but at what costs? What have we learned from solar, battery storage, and similar service requests than can be applied for faster grid interconnections for electric transportation?
8:00 AM - 12:00 PM	Cold Climate Heat Pumps	Work in recent years to produce cold climate heat pumps has resulted in a variety of viable products. Explore the new options on the market, applications for success, and the benefits for customers, utilities, and energy programs.
1:00 PM - 5:00 PM	Non-Road Transportation	Significant opportunities exist for electrification in non-road applications. From forklifts to airport ground equipment to port equipment of all types as well as recreational vehicles, non-road electrification holds great promise in a net-zero future.
1:00 PM - 5:00 PM	Vehicle to X Integration	We've done technology and custom pilots. What is needed for rapid scale and what are the ultimate benefits to customers and grid operators? Is there a line of sight to an affordable, flexible, customer-centric solution that vehicle manufacturers and utilities are willing to broadly adopt? Do we need standardized interconnections to homes, buildings, the grid? How does V2X support resilience?
1:00 PM - 5:00 PM	Workforce Development	Electrification to drive economy-wide decarbonization has the potential to create a surge of new jobs and demand for ancillary products and services that can stimulate local economic development. Explore how we can equip individuals with the requisite knowledge, skills, and training to meet this demand, while providing equitable access to these opportunities to enable a diversified, prosperous workforce for an electrified future.

ELECTRIFICATION 2024 Tracks

Wednesday | 3/13 10:30 AM - 12 PM

<p>TRACK 1 Industrial</p>	<p>Gearing Towards a Net Zero Future in Industry</p>	<p>Gearing towards a net zero future is an imperative task that requires global cooperation and concerted efforts from all sectors of society. It encompasses a comprehensive transition towards sustainable practices and technologies aimed at eliminating greenhouse gas emissions and mitigating climate change. Achieving net zero involves a multi-faceted approach, including decarbonizing energy production, promoting renewable energy sources, improving energy efficiency, transitioning to electric mobility, and adopting circular economy principles. By embracing a net zero future, we can forge a path towards a cleaner, healthier planet, ensuring a sustainable future for generations to come. This session will focus on how large commercial organizations and industries are embracing these principles and moving towards a net zero future.</p>
<p>TRACK 2 Decarbonized Transportation</p>	<p>The 2030 Road Map: Getting from Here to There</p>	<p>What are the leading EV markets in the U.S.? Why? How much charging and supporting infrastructure is needed? What's happening in the truck sector? What pace of action and investment is needed to reach 2030 goals?</p>
<p>TRACK 3 Smart & Decarbonized Buildings</p>	<p>Celebrating Successes</p>	<p>While building electrification is not new, the industry has hit its renaissance over the last 5-10 years. This panel will talk about successes in the industry that have advanced technologies, markets, and programs around building electrification. It will cover the challenges faced and collaborative techniques that are enabling the industry to solve challenges around building electrification.</p>
<p>TRACK 4 People & Communities</p>	<p>Equitable Electrification: Delivering economic benefits to empower local communities and uplift all segments of society</p>	<p>How can the benefits of electrification accrue equitably to everyone in society? Learn how electrification can uplift economically disadvantaged communities through initiatives that enable access to technologies and create local electrification-linked jobs.</p>
<p>TRACK 5 Department of Defense</p>	<p>A Conversation With the Department of Defense: Electrification Priorities, Policy, & Processes</p>	<p>As the world's largest institutional energy consumer, the US Department of Defense requires an abundance of energy to power its facilities, weapons systems, and equipment both at home and abroad. While facing an array of operational demands that increase the amount of power required to integrate sensors and systems and perform mission critical functions, the DOD also faces a variety of threats to its installations and infrastructure from cyber attacks, climate change, and aging facilities and equipment. Electrification can help the DOD meet its energy and National Security Goals. This session examines some of the Electrification priorities, policy, and processes of DOD. Moderated by Mike Wu, who has extensive experience in Government Energy Policy, we will look at DOD Studies, Demonstrations, Prototyping, and Installation of Electrification Project Processes. In addition, we will discuss US Navy Electrification Priorities and how different or similar they are to the rest of DOD.</p>
<p>TRACK 6 Low Carbon Fuels in Electrification</p>	<p>The Potential of Hydrogen for Indirect Electrification</p>	<p>Explore use cases for hydrogen in commercial and industrial process applications. Investigate how might we improve the efficiencies in clean hydrogen production for greater access, including the use of new materials.</p>
<p>TRACK 7 Electrification & Grid Impacts</p>		
<p>TRACK 8 Controlled Environment Agriculture</p>		

ELECTRIFICATION 2024 Tracks

Wednesday | 3/13 1:30 PM - 3 PM

<p>TRACK 1 Industrial</p>	<p>Electrification of Heavy & Light Industries</p>	<p>Overview of industrial segments and how electrification solutions vary for large, process industries compared to light / assembly / fabrication. Connects the four pillars of industrial decarbonization: energy efficiency, electrification, low carbon fuels (indirect electrification) and carbon capture / utilization / storage.</p>
<p>TRACK 2 Decarbonized Transportation</p>	<p>Scale Means Everyone. Yes, EVERYONE!</p>	<p>How do we make sure everyone is included in the transition? 50% EV market share means we need to include urban consumers, rural, MDUs, disadvantaged, fleets, technology-rejectors, and even overlooked or new voices. This is an equity and workforce opportunity, but charging stations must be reliable. What about neighborhood charging plazas? Curbside charging? Rideshare as a lever for change? What are best-practices and lessons learned?</p>
<p>TRACK 3 Smart & Decarbonized Buildings</p>	<p>Technology to Bridge the Gap</p>	<p>While many of the tools and technologies to electrify buildings are here today, there are still emerging technologies and approaches that are needed to enable electrification of all types of buildings. The thought leaders that are part of this panel will talk about those emerging tools, technologies, and approaches that help bridge the technology gaps needed to electrify all types of buildings across climates.</p>
<p>TRACK 4 People & Communities</p>	<p>Multifamily Housing: Electrification strategies and success stories for hard-to-reach multifamily communities</p>	<p>Consideration of residential electrification opportunities often overlooks the multifamily housing sector, which is typically regarded as a “hard-to-reach” market. Learn about strategies and success stories for electrification in a variety of multifamily housing examples, including overcoming institutional and perceptual barriers while ensuring equitable access to technology.</p>
<p>TRACK 5 Department of Defense</p>		
<p>TRACK 6 Low Carbon Fuels in Electrification</p>		
<p>TRACK 7 Electrification & Grid Impacts</p>	<p>Strategy and Resource Planning for Electrification Growth</p>	<p>What are the impacts of electrification on load shape, magnitudes and resource adequacy? Modeling electric vehicles, HVAC, industrial and other electric loads in capacity expansion analytics.</p>
<p>TRACK 8 Controlled Environment Agriculture</p>	<p>Electrification Opportunities and Community Benefits</p>	<p>Indoor agriculture / Controlled Environment Agriculture (CEA) is expanding worldwide. The growing industry utilizes a range of electric technologies and unique form factors to deliver ideal growing conditions year-round regardless of climate and outdoor conditions. This panel of industry leaders will share how CEA can be sited within any community, due to its ability to be located in shipping containers, storefronts, warehouses, or specialized greenhouses, and how these farms can work with utilities and communities to potentially deliver a range of grid, environmental, community, and societal benefits.</p>

ELECTRIFICATION 2024 Tracks

Thursday | 3/14 10:30 AM - 12 PM

TRACK 1 Industrial	Electrification of Construction, Mining, & Agricultural Equipment	The work performed by heavy construction, mining and agricultural equipment requires delivery and short-term storage of dense energy reserves at the point of operation in order to literally move the earth and perform other material movement operations requiring heavy horsepower prime movers. Duty cycles are long, payloads are heavy and environmental conditions are harsh requiring this mobile equipment to carry its energy source along with it, historically in the form of energy dense liquid fossil fuels. As a result these have been challenging sub-sectors of industrial mobility to decarbonize via direct electrification with battery electric options. This panel of industry experts will outline the importance of finding sustainable pathways to low carbon final energy for these industries. The challenges and opportunities for direct and indirect electrification of heavy mobile equipment will be discussed as well as the means and implications of supplying and distributing this power or other alternate energy carriers to the expansive geographies involved.
TRACK 2 Decarbonized Transportation	Why is a Truck Not a Building? Why is Electrifying at Scale so Hard?	Laying out major challenges and solutions to electrification at scale, including fleet electrification and today's regulatory paradigms. Do today's rules work? Who has it figured out?
TRACK 3 Smart & Decarbonized Buildings	Making Buildings 'Smart'	From smart thermostats to connected water heaters to AI enabled voice assistants, the market for behind-the-meter smart devices that improve comfort & convenience, and provide energy management capabilities, has exploded over the last few years. What is the future value of smart buildings and connected communities, and how can it be realized?
TRACK 4 People & Communities	Electrifying K-12 School Campuses: Benefiting essential community infrastructure and enhancing curricula	School campuses offer exciting opportunities for transformative growth in electrification, while also serving as a showcase for educators and students to experience new technologies. Learn more about how utilities and third parties have partnered with schools to help achieve electrification and decarbonization goals while adding new, relevant learning modules into the curriculum.
TRACK 5 Department of Defense		
TRACK 6 Low Carbon Fuels in Electrification		
TRACK 7 Electrification & Grid Impacts	T&D Investment Planning for Large Scale Electrification	What new approaches and techniques will drive T&D investment planning to enable fleets, residential/commercial EV charging, and other peak increasing end uses?
TRACK 8 Controlled Environment Agriculture		

ELECTRIFICATION 2024 Tracks

Thursday | 3/14 1:30 PM - 3 PM

TRACK 1 Industrial	Emerging Technologies in Industry	Many new emerging electro-technologies and indirect electrification technologies are being introduced in the industrial market. Process heating technologies, such as microwave enhanced chemistry, acoustically enhanced drying and low cost heat pumps to make high temperature steam are being developed and demonstrated around the country. Also, new indirect electrification technologies, such as ammonia and methanol as energy carriers, are seeing applications in industrial processes. This session will focus on new and emerging technologies for industrial electrification and decarbonizations, and organizations behind the efforts to commercialize them.
TRACK 2 Decarbonized Transportation	Enough With the Pilots — Let's Get to Scale!	The 2030 goals loom large. And every year there's less time left to solve the challenges of getting to scale. Let's talk about solutions to the major barriers in processes, supply chain, workforce, etc.
TRACK 3 Smart & Decarbonized Buildings	Scaling Up	While several of the technologies and approaches for building electrification have been individually tried and tested in a number of one-off field demonstrations, and while hundreds of consultant reports have repeatedly shown through various sophisticated simulation models about the benefits of scaled adoption, there is still a huge chasm to be crossed from small scale demonstrations to wide-spread adoption and market transformation. This session will describe approaches and processes for making electrification happen at scale across a large portfolio of buildings and communities. The industry leaders in market transformation will share their insight.
TRACK 4 People & Communities	Growing Electrification Opportunities in Agriculture, Farming, Manufactured Housing, and Beyond	Consideration of electrification opportunities often overlooks the rural communities, which are typically regarded as a "hard-to-reach" markets. Learn about strategies and success stories for electrification in a variety of rural cases, including farming and agricultural applications.
TRACK 5 Department of Defense		
TRACK 6 Low Carbon Fuels in Electrification	Beyond Hydrogen — Other Low Carbon Fuel Opportunities	Many other opportunities for low carbon fuel use exist across the economy. Explore the different fuels, applications, benefits, and approaches for production and distribution of these alternate fuels.
TRACK 7 Electrification & Grid Impacts		
TRACK 8 Controlled Environment Agriculture		